

1/81

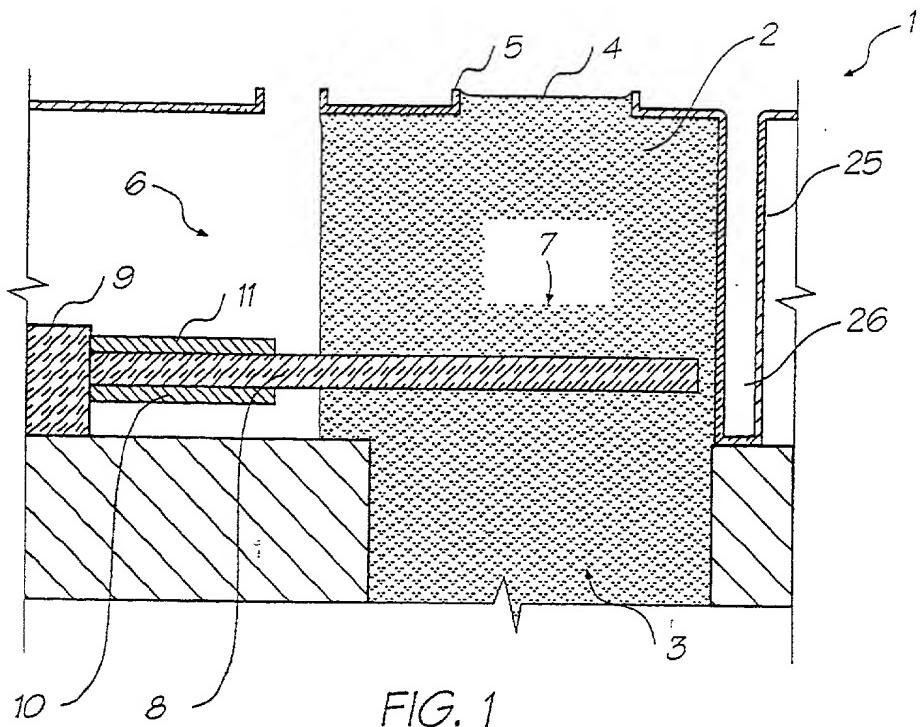


FIG. 1

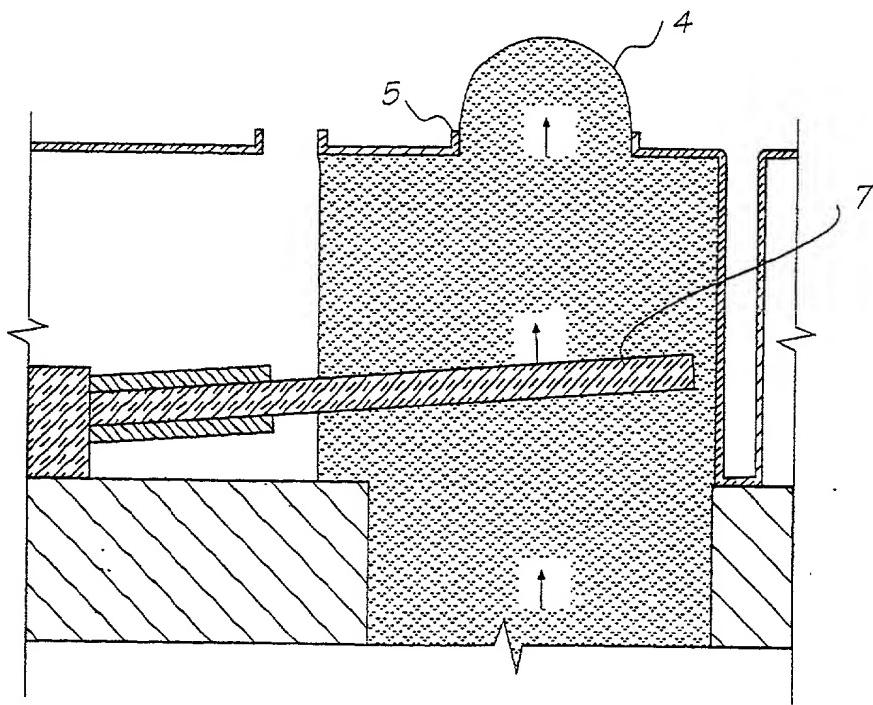


FIG. 2

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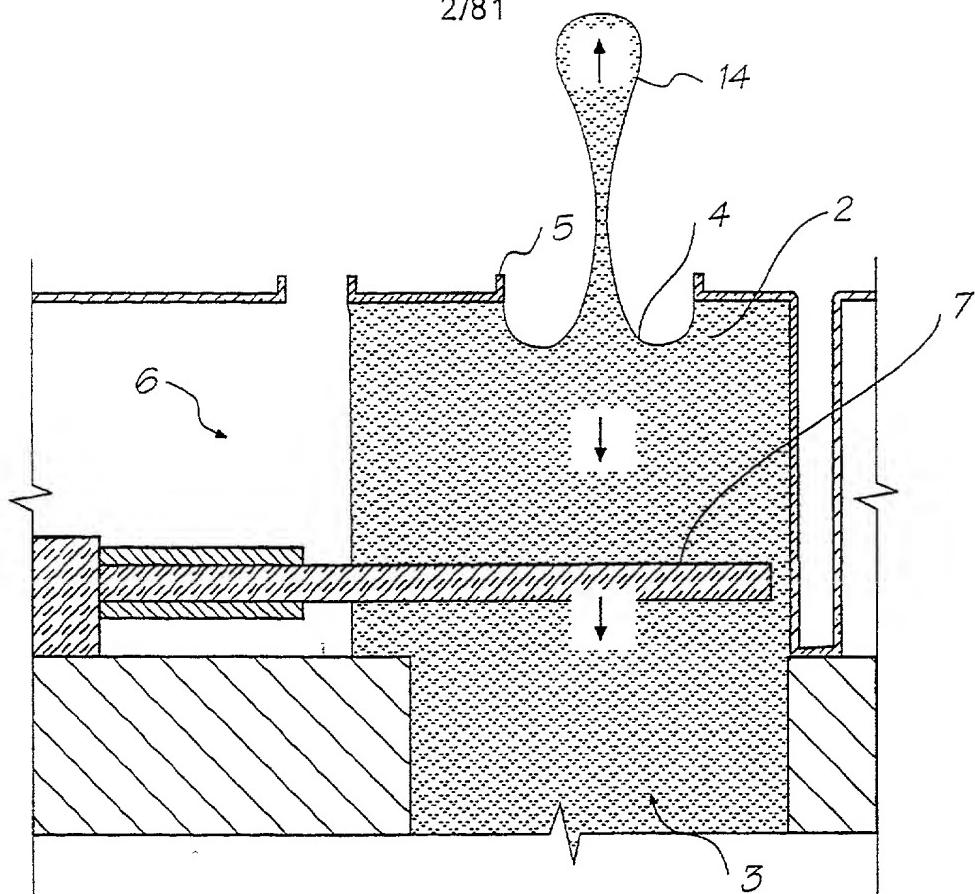


FIG. 3

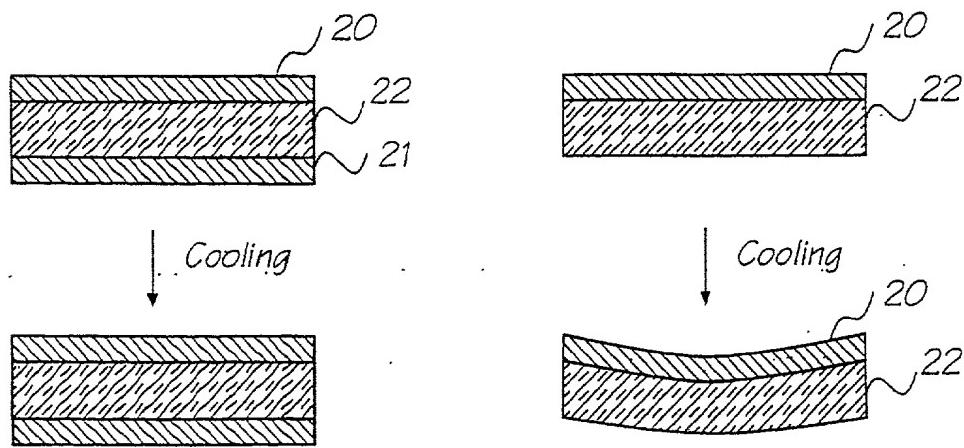


FIG. 4

FIG. 5

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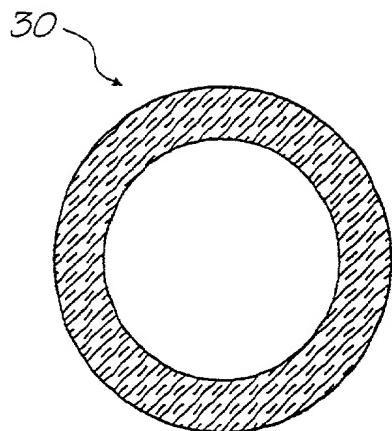


FIG. 6

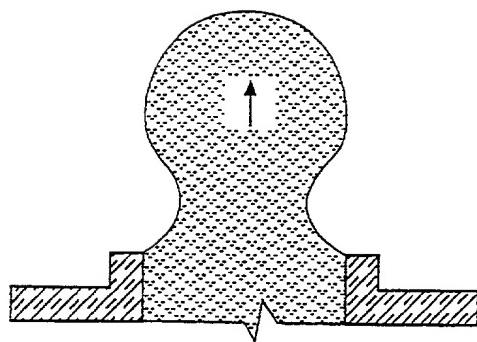


FIG. 7

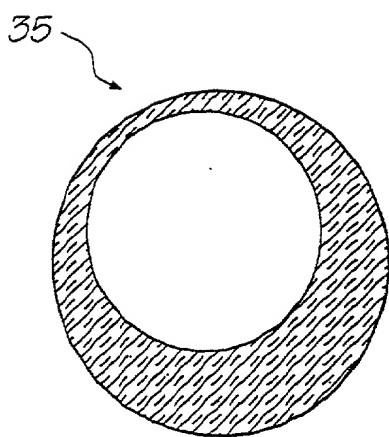


FIG. 8

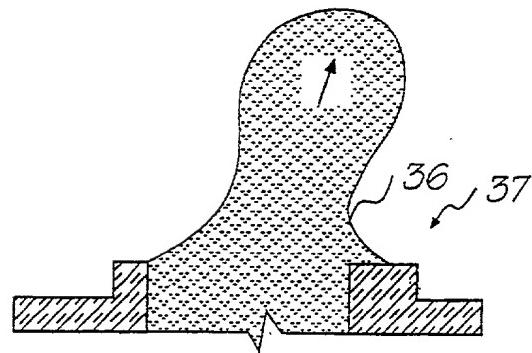


FIG. 9

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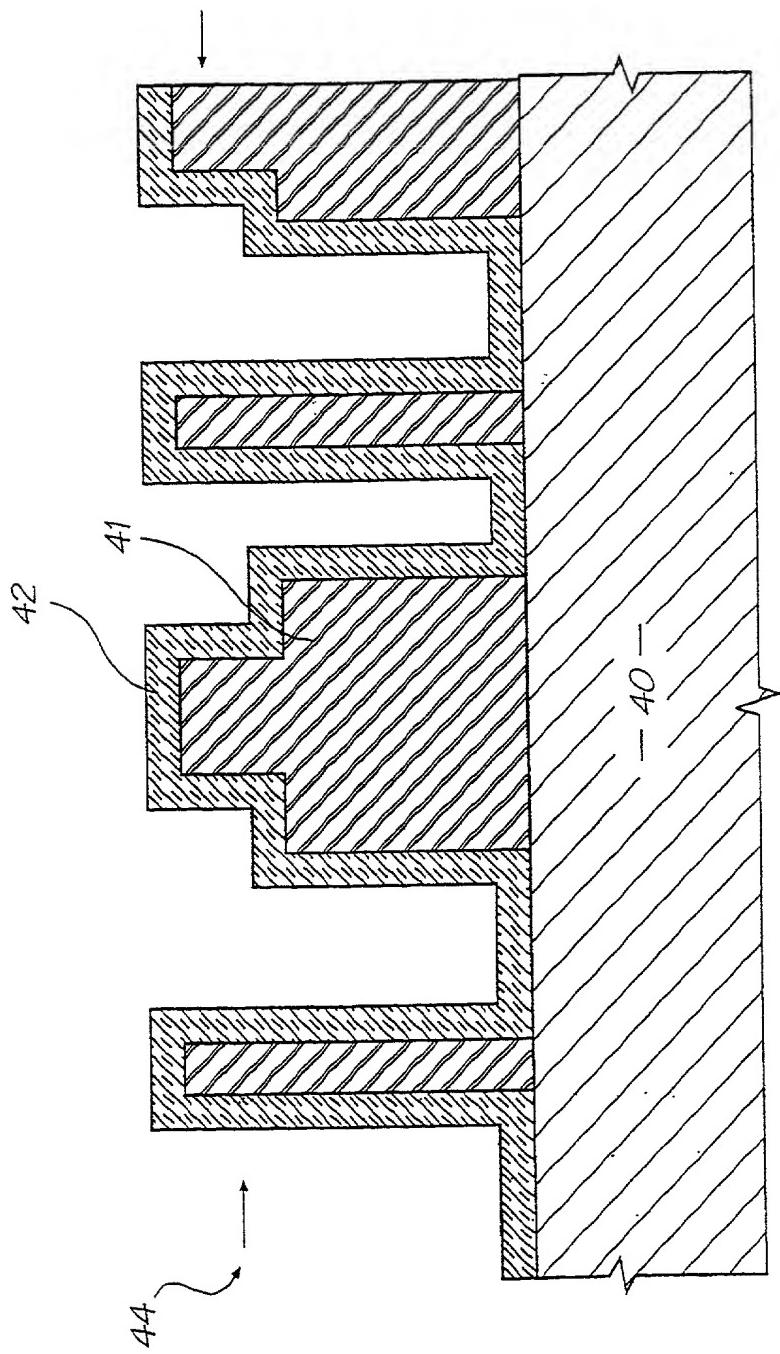


FIG. 10

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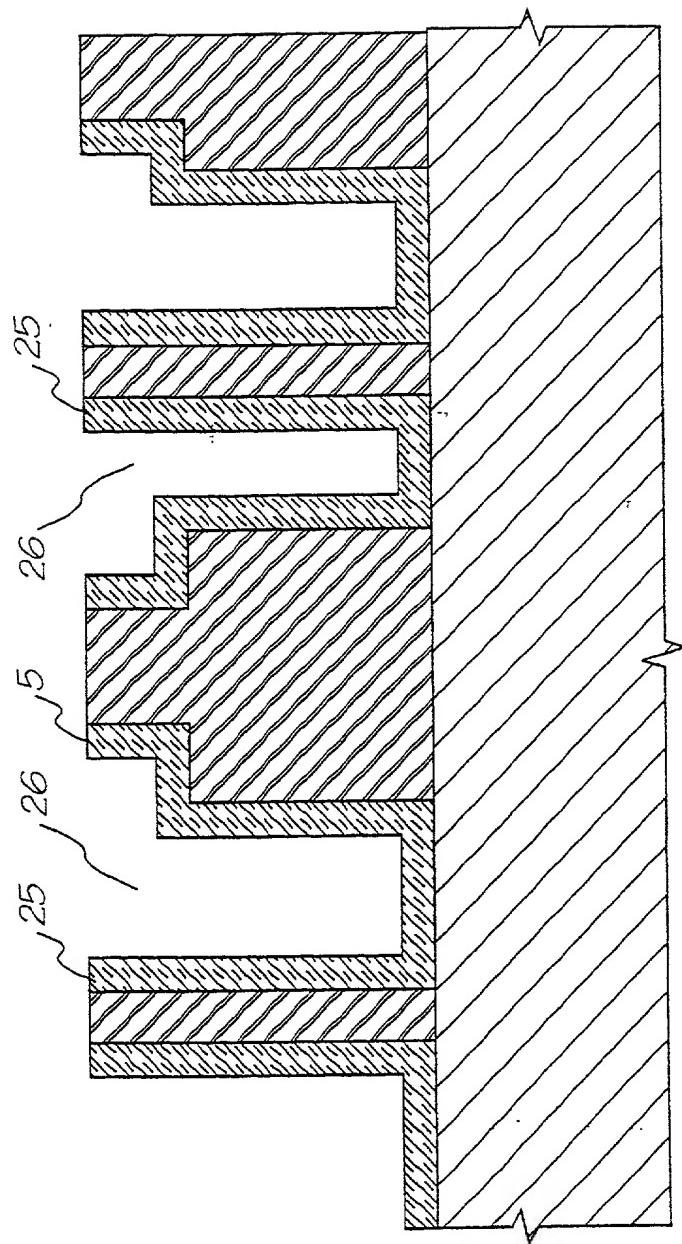


FIG. 11

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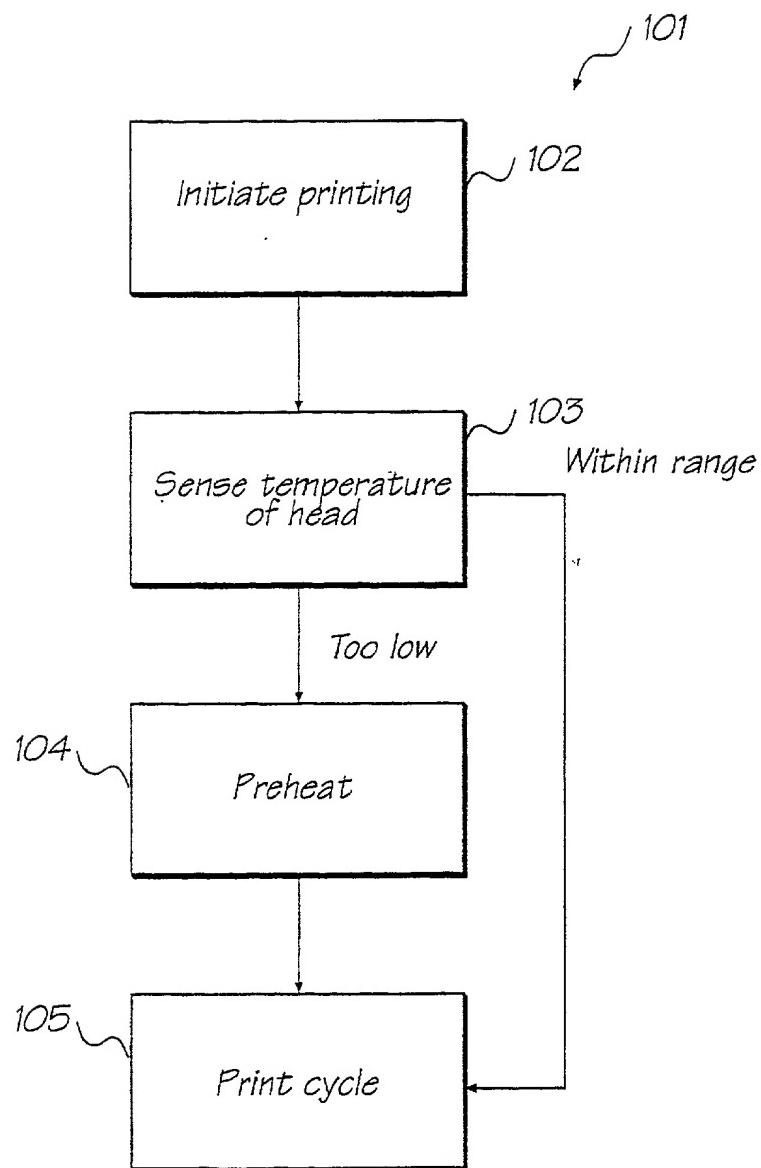


FIG. 12

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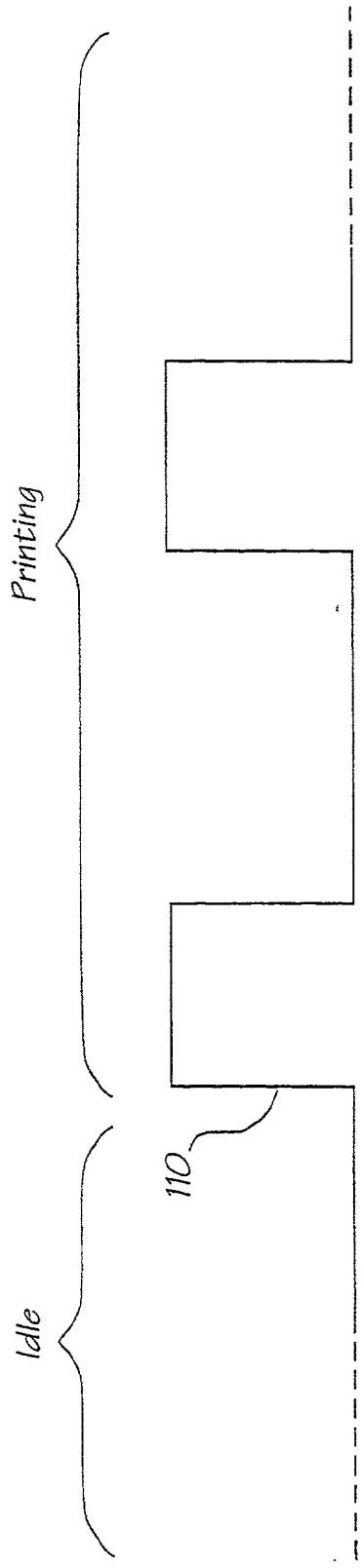


FIG. 13

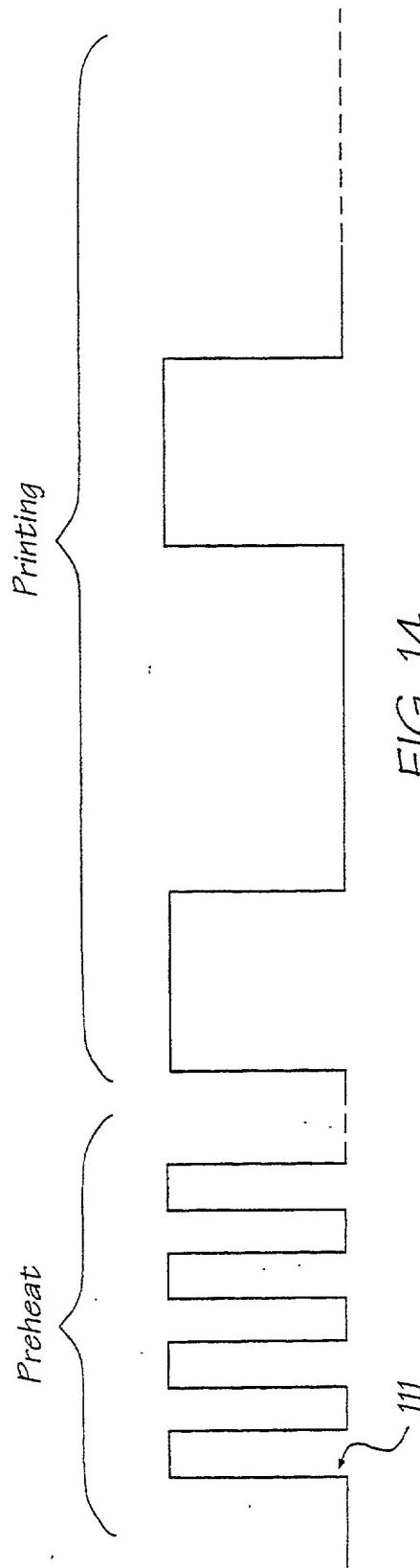


FIG. 14

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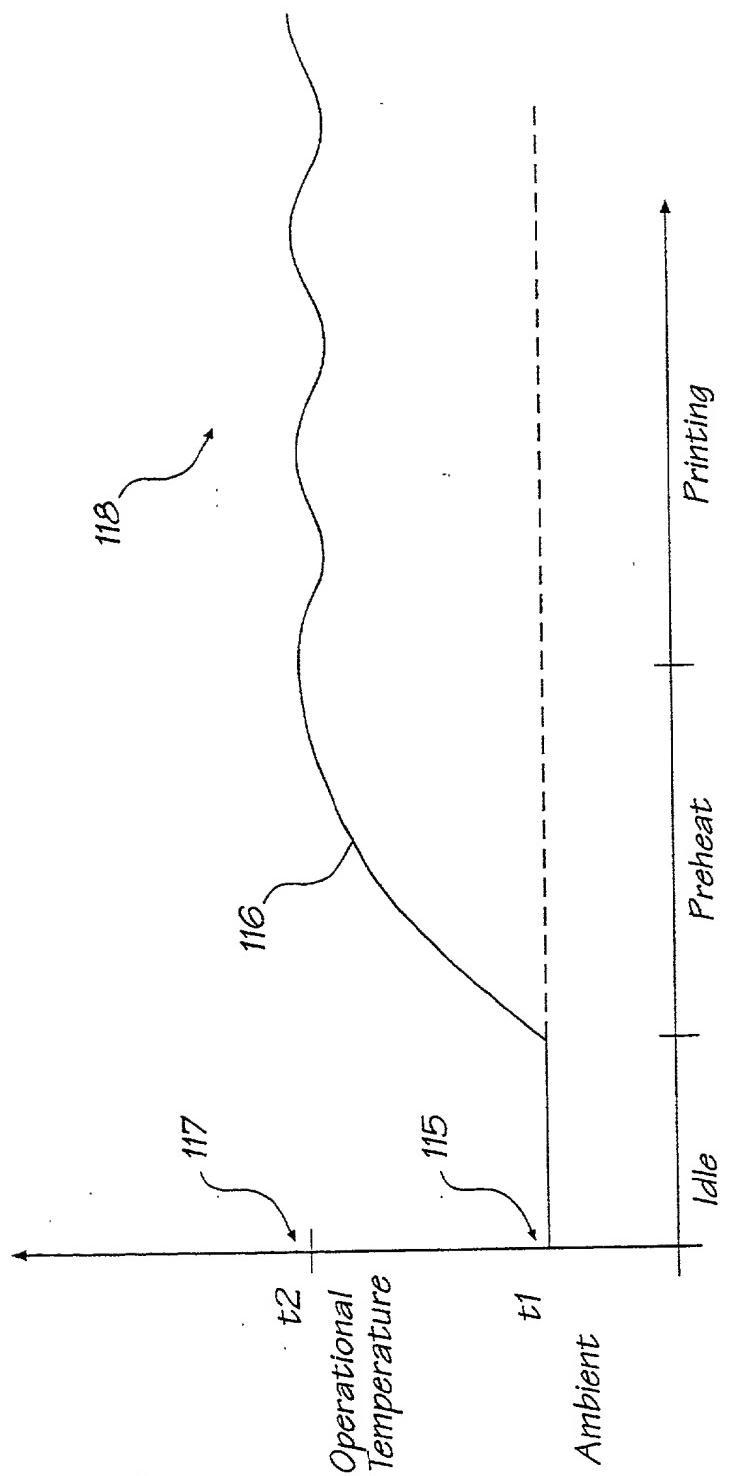


FIG. 15

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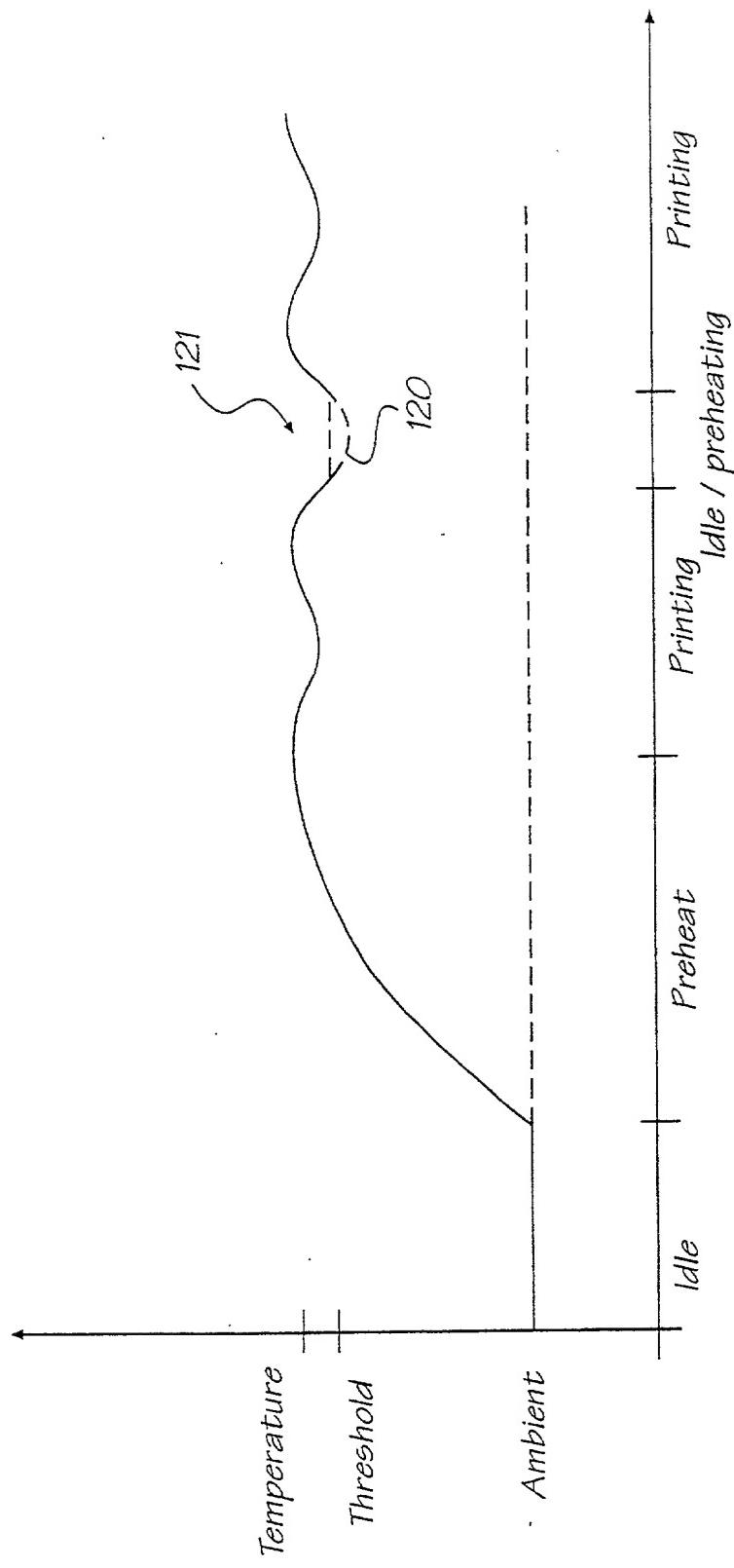


FIG. 16

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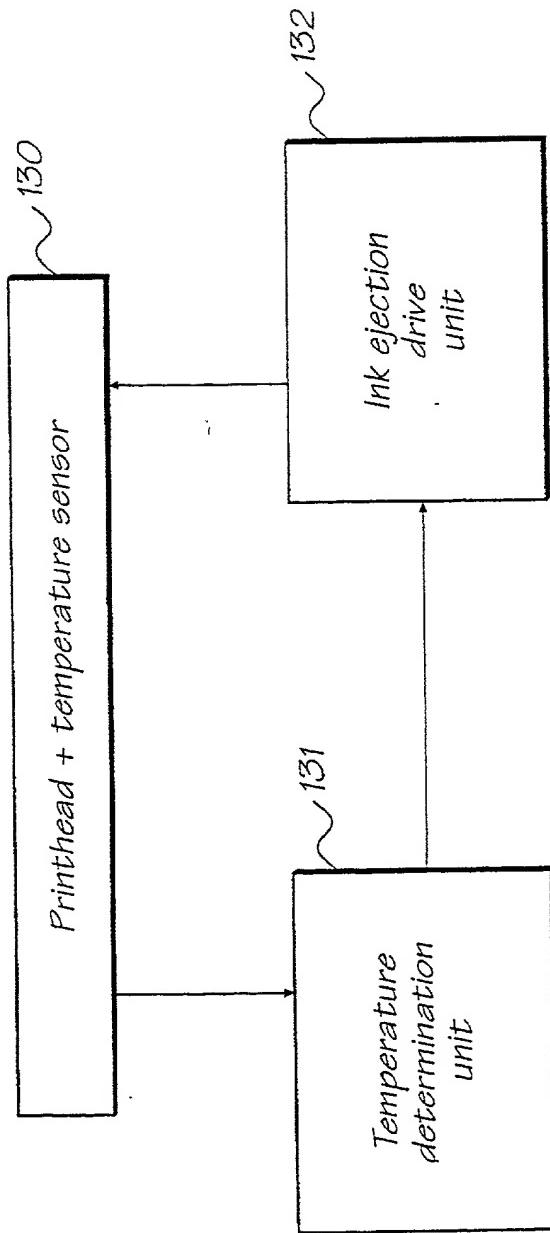
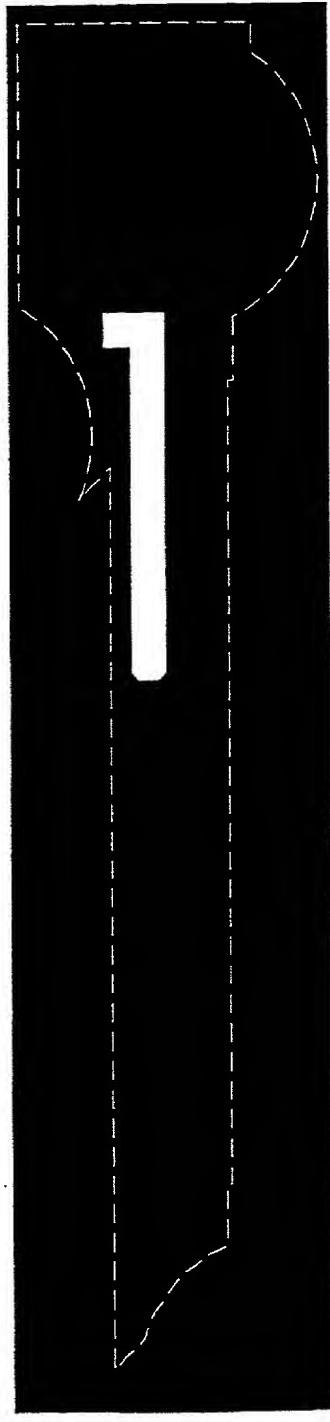
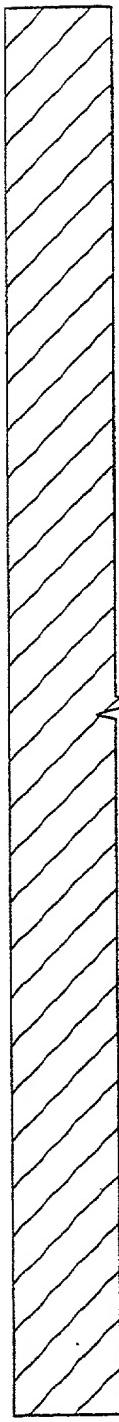


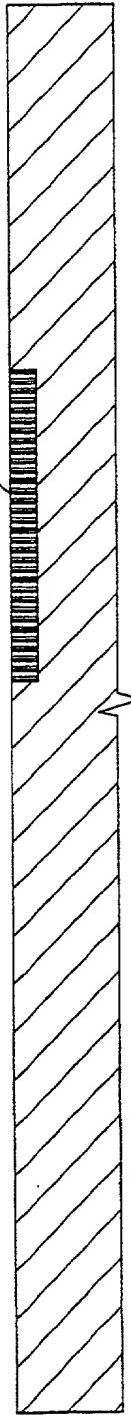
FIG. 17

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N-Well mask

210



Implant N-Well

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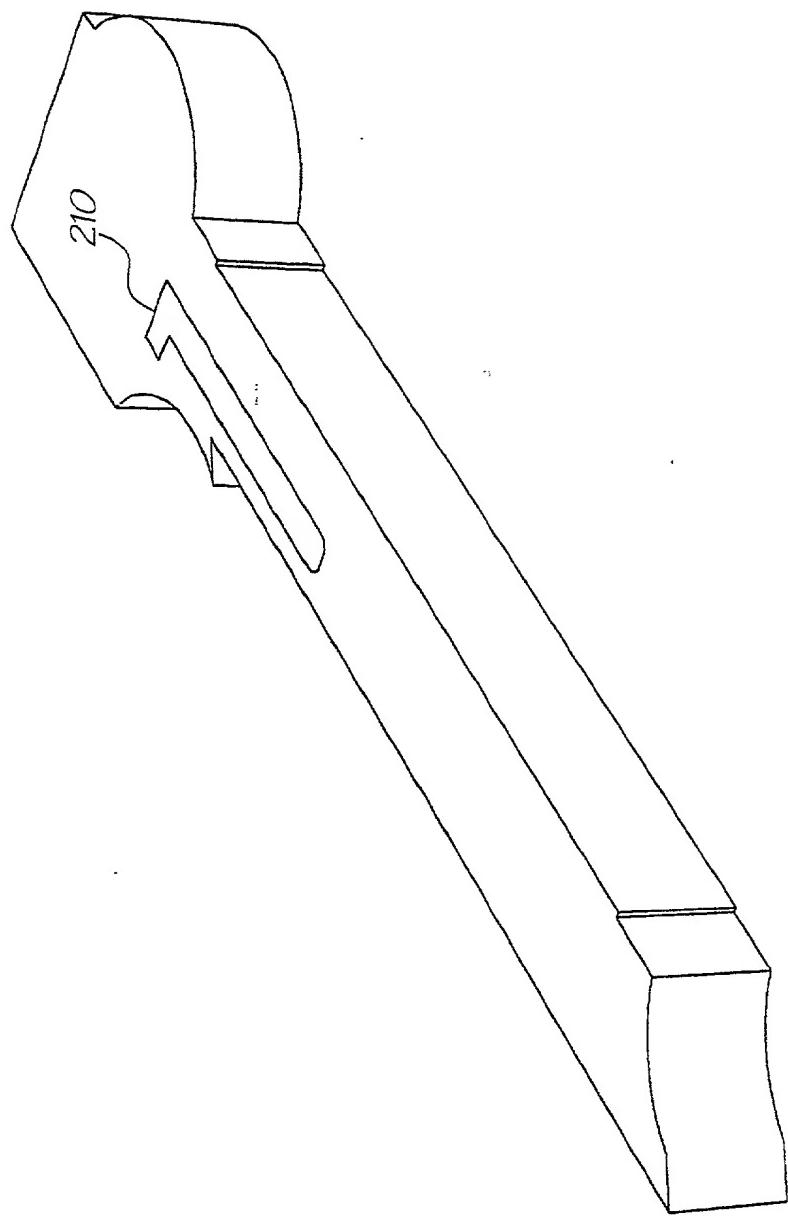
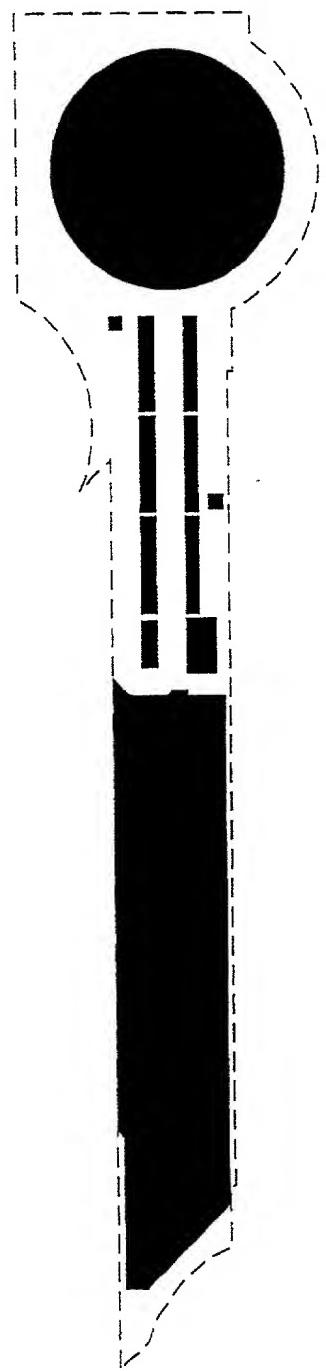


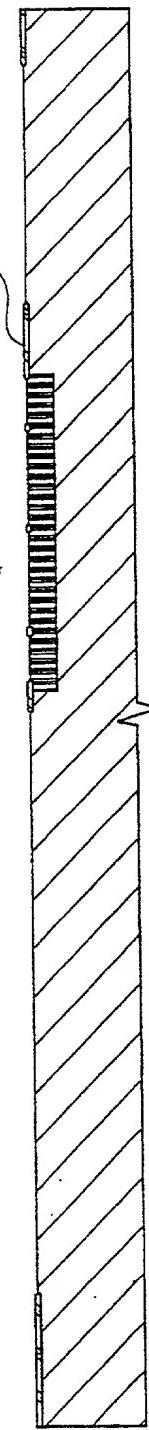
FIG. 21

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Active mask

FIG. 22



Grow field oxide

FIG. 23

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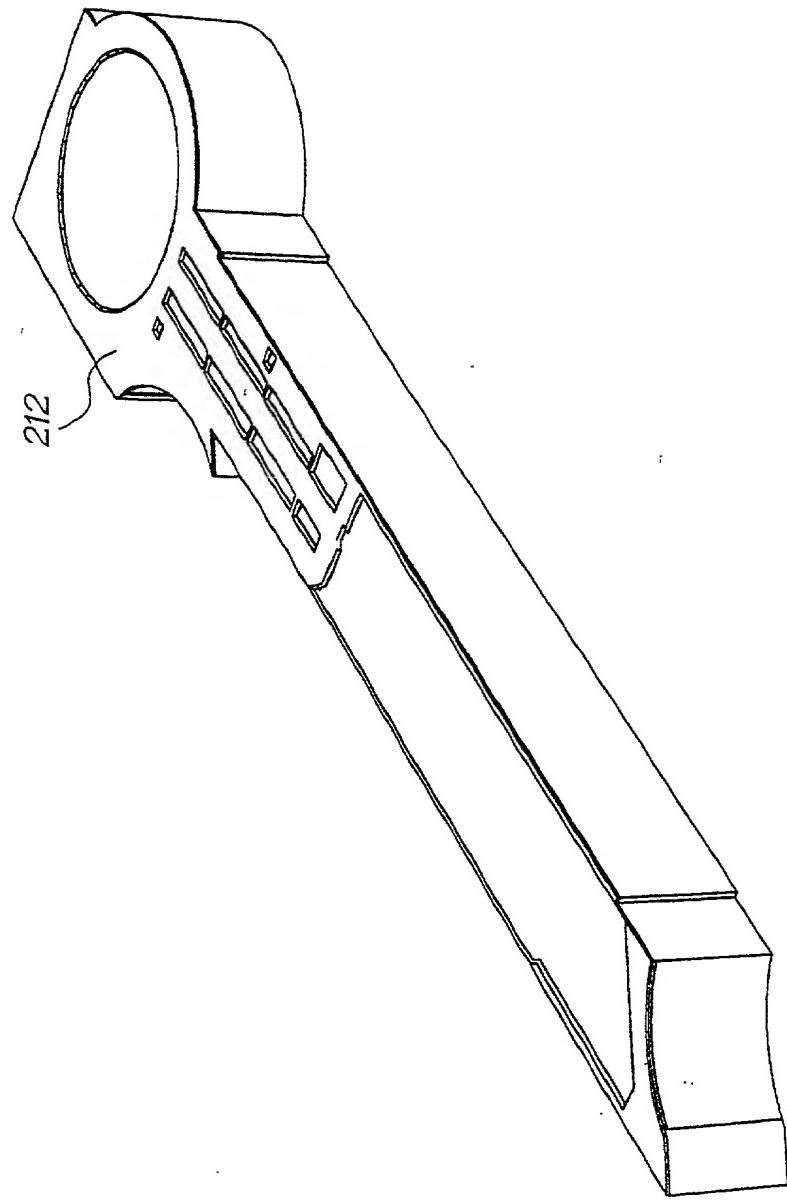
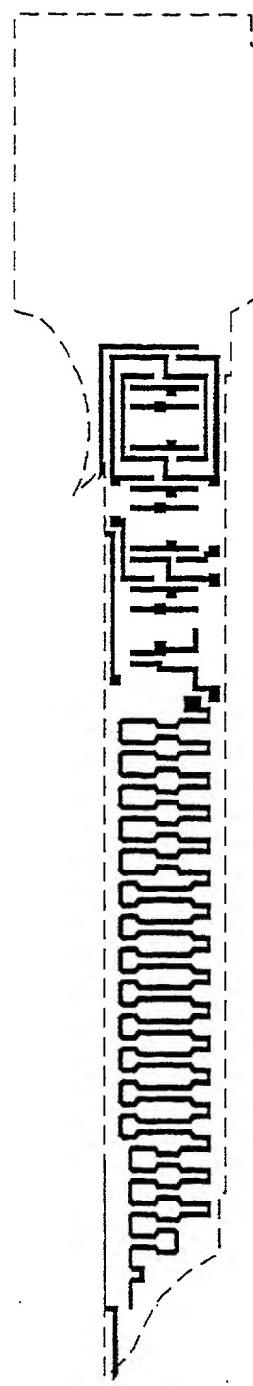


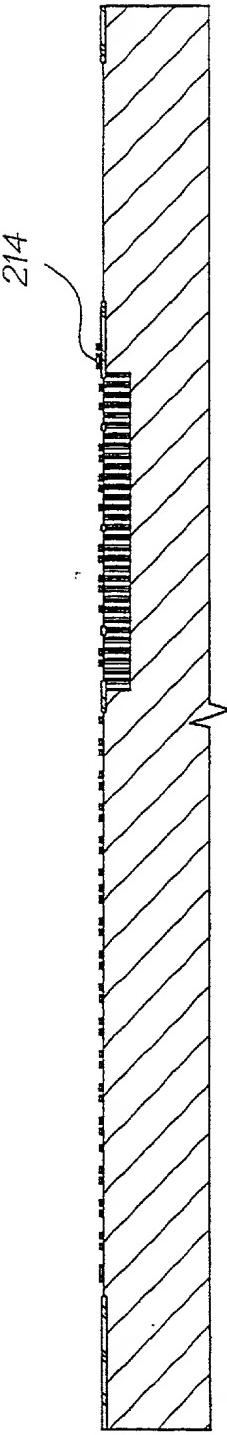
FIG. 24

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Poly mask

FIG. 25



Deposit poly

FIG. 26

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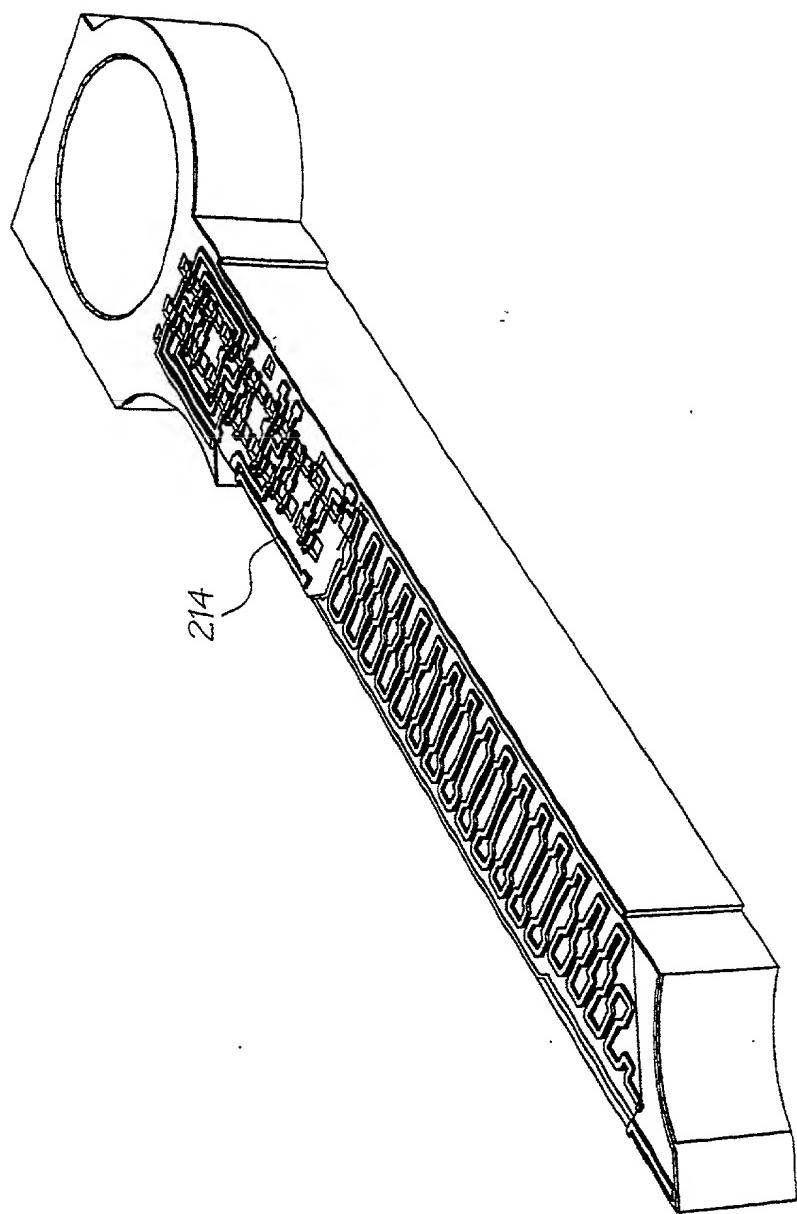


FIG. 27

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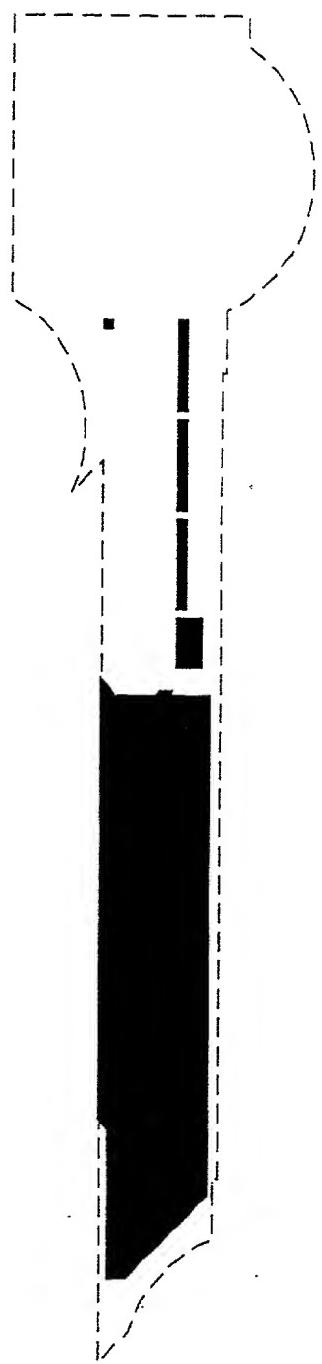


FIG. 28

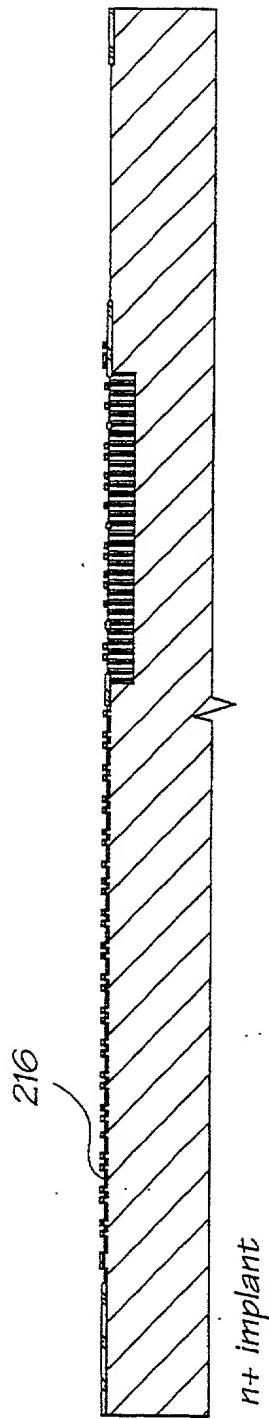


FIG. 29

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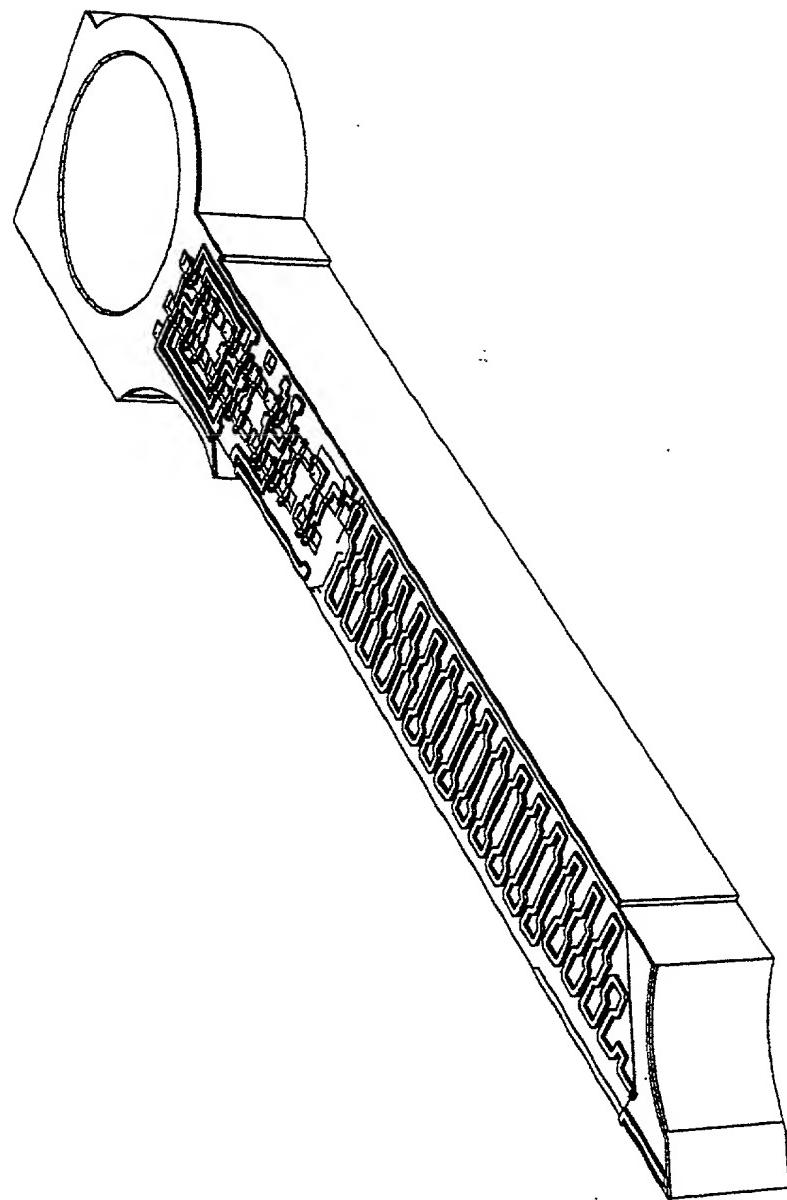


FIG. 30

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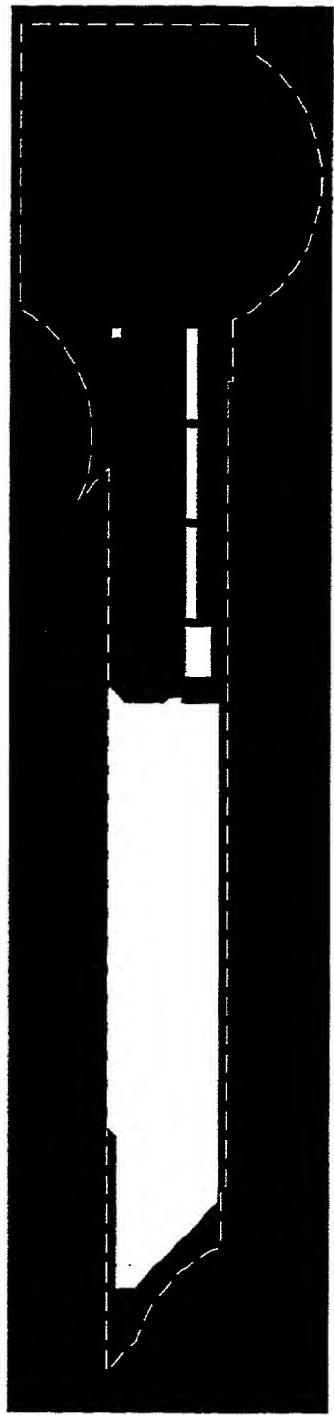


FIG. 31

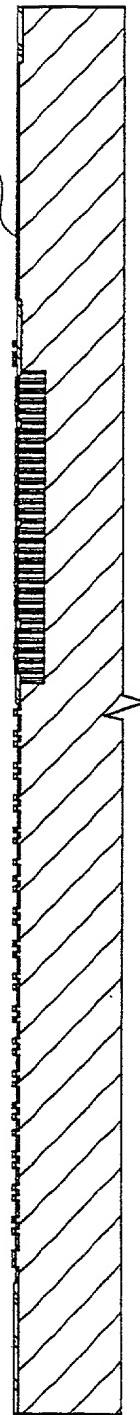


FIG. 32

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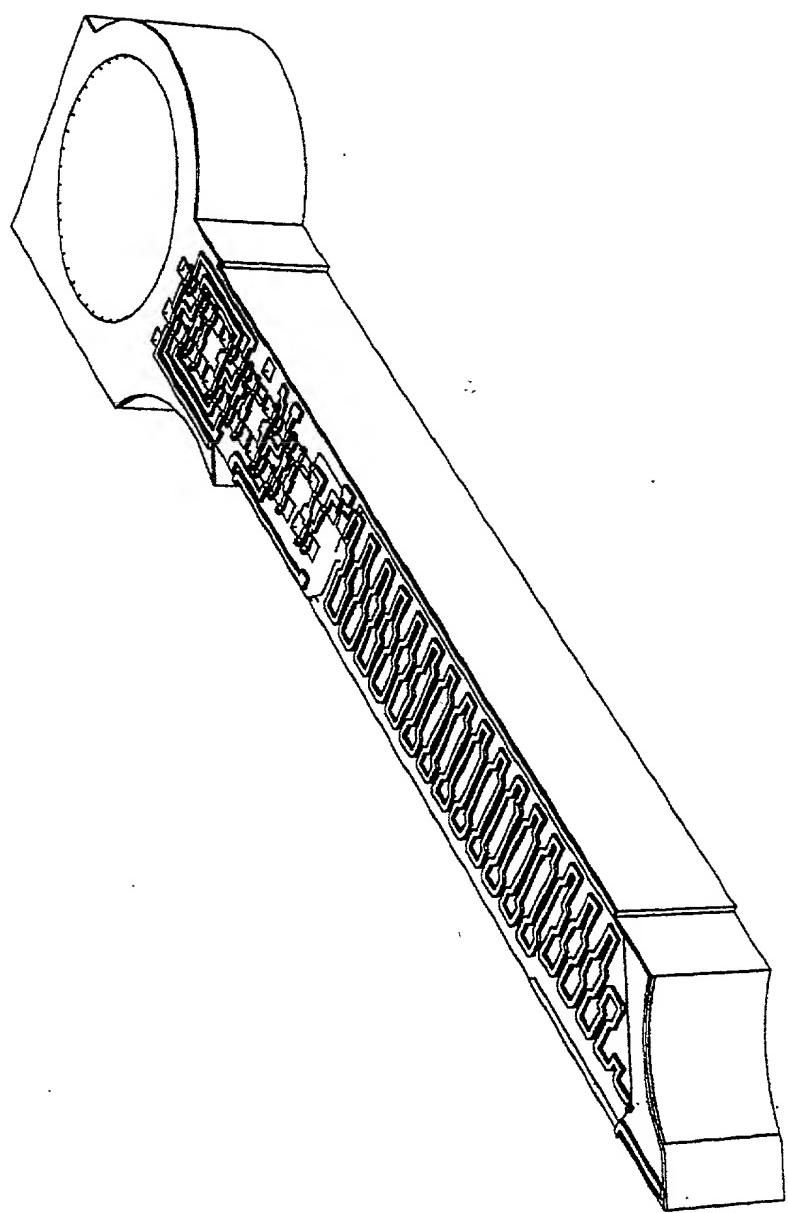
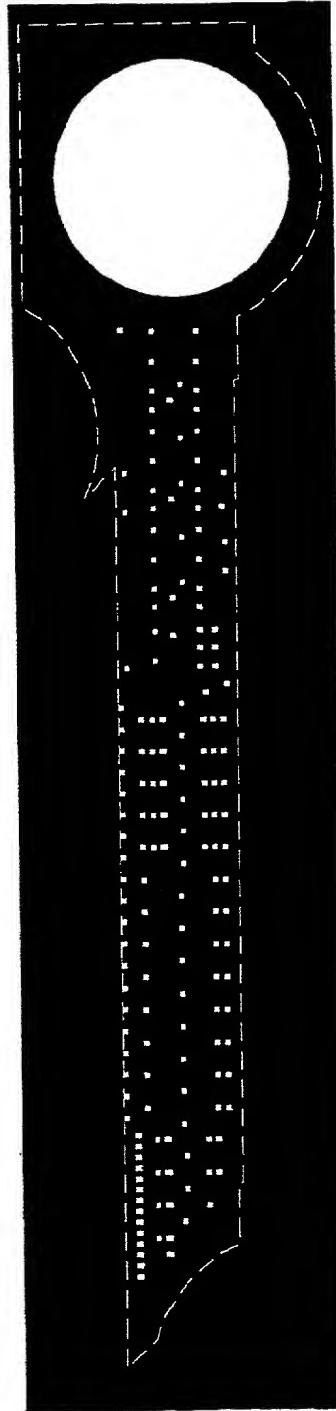


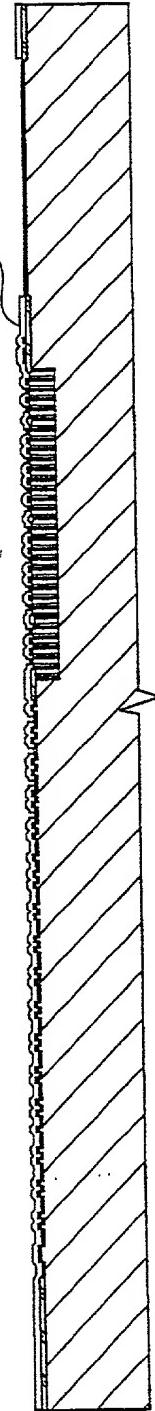
FIG. 33

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Contacts mask

FIG. 34



Deposit ILD 1, etch contacts

FIG. 35

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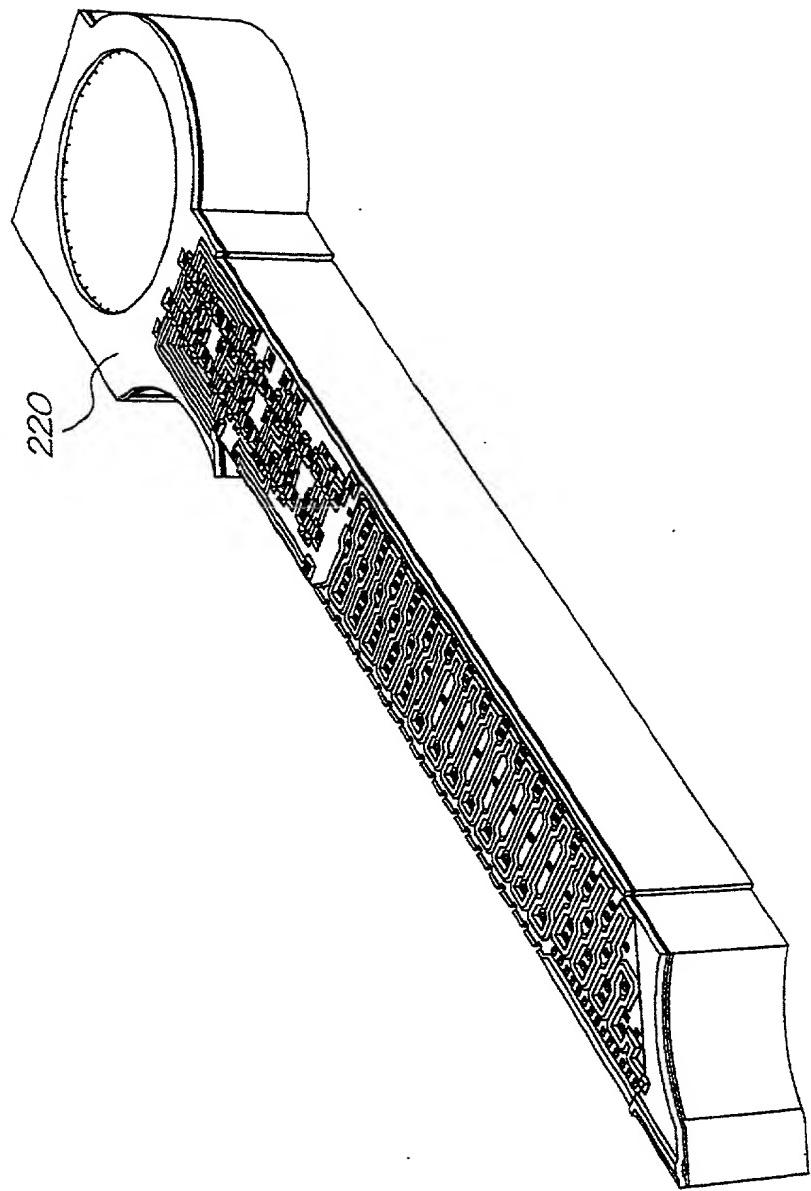
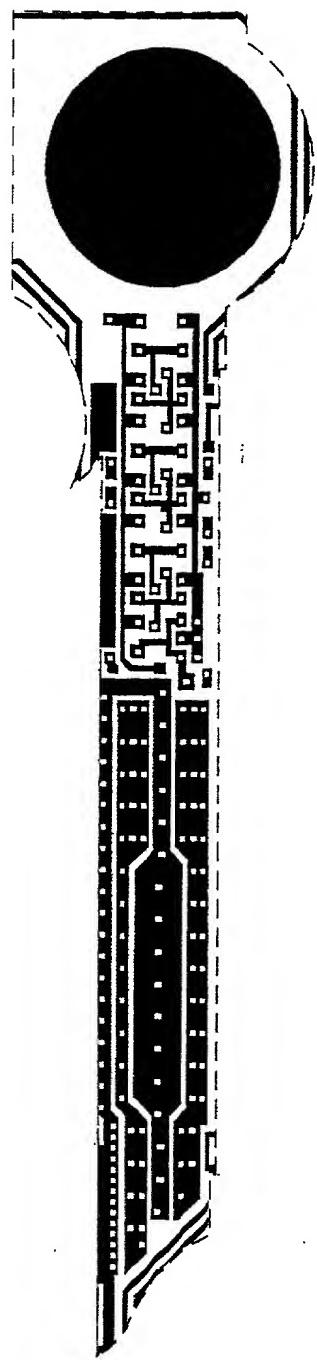


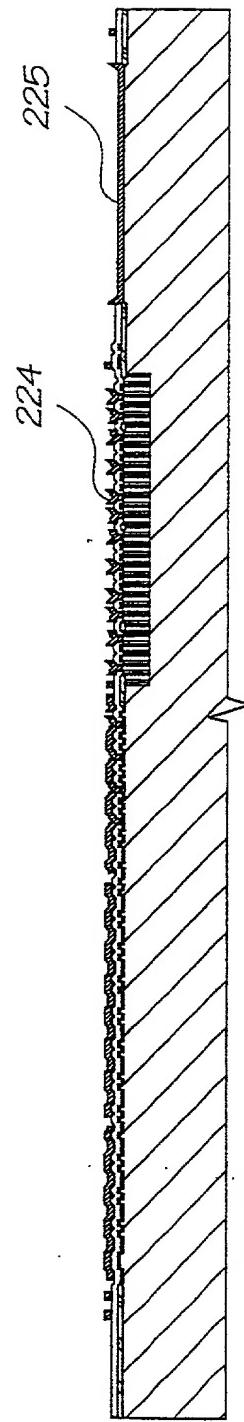
FIG. 36

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Metal 1 mask

FIG. 37



Deposit Metal 1

FIG. 38

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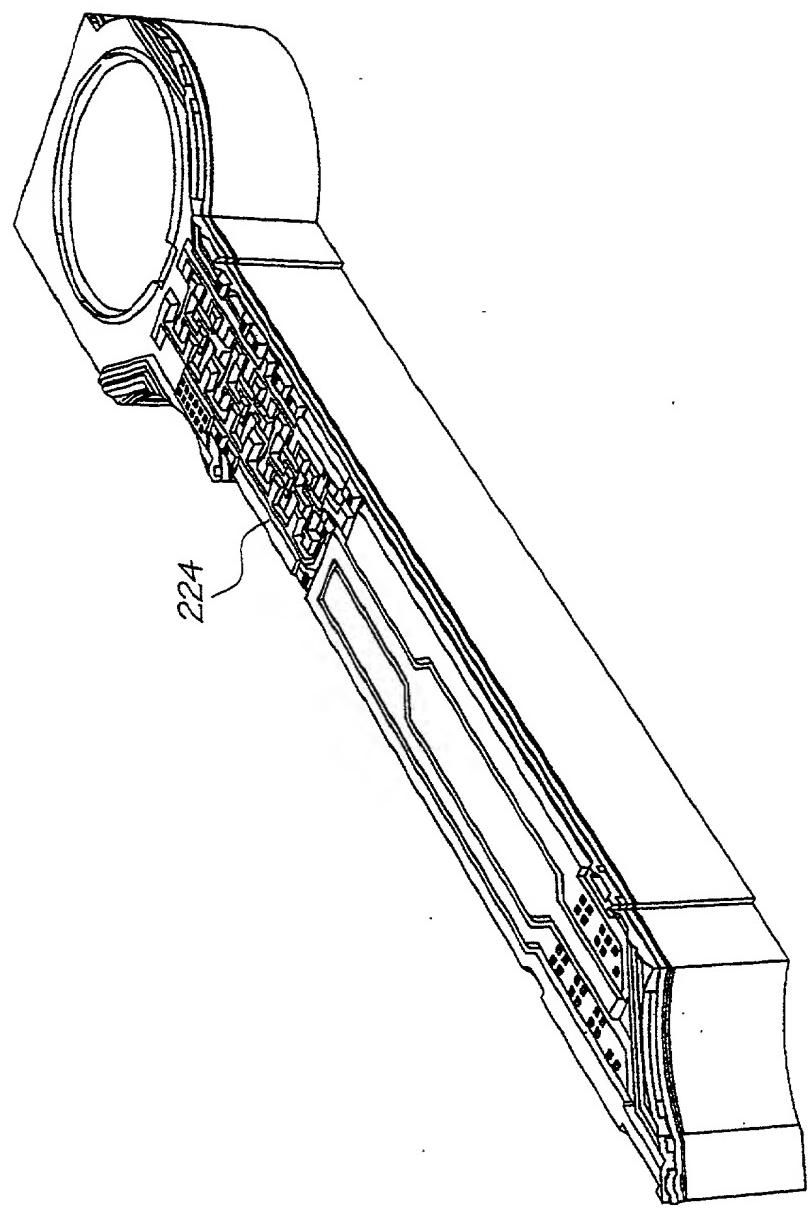
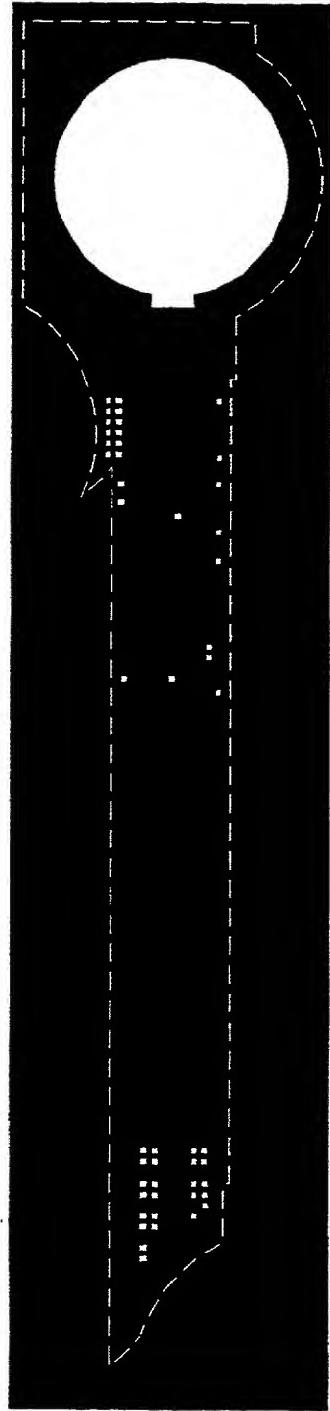


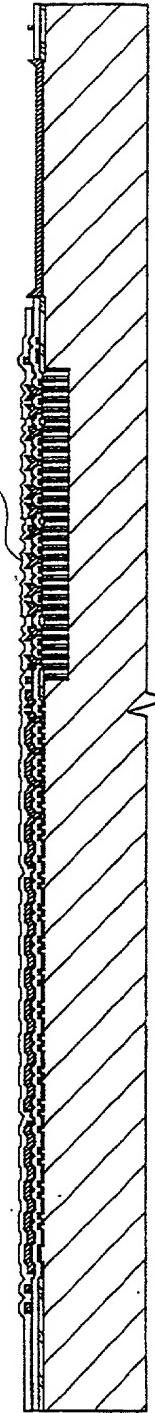
FIG. 39

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Via 1 mask

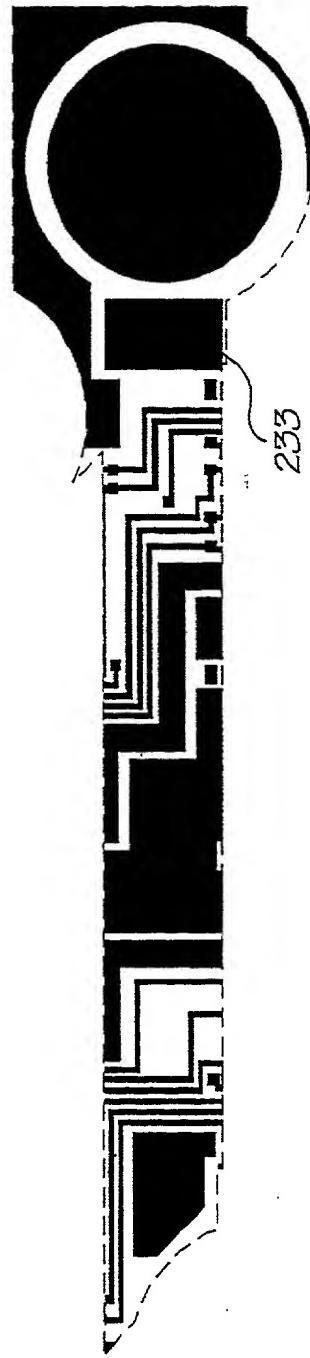
FIG. 40



Deposit ILD 2, etch vias

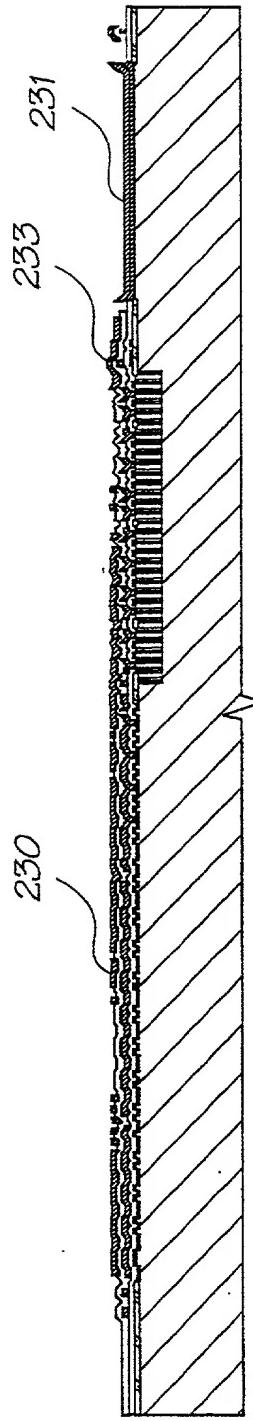
FIG. 41

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Metal 2 mask

FIG. 42



Deposit metal 2

FIG. 43

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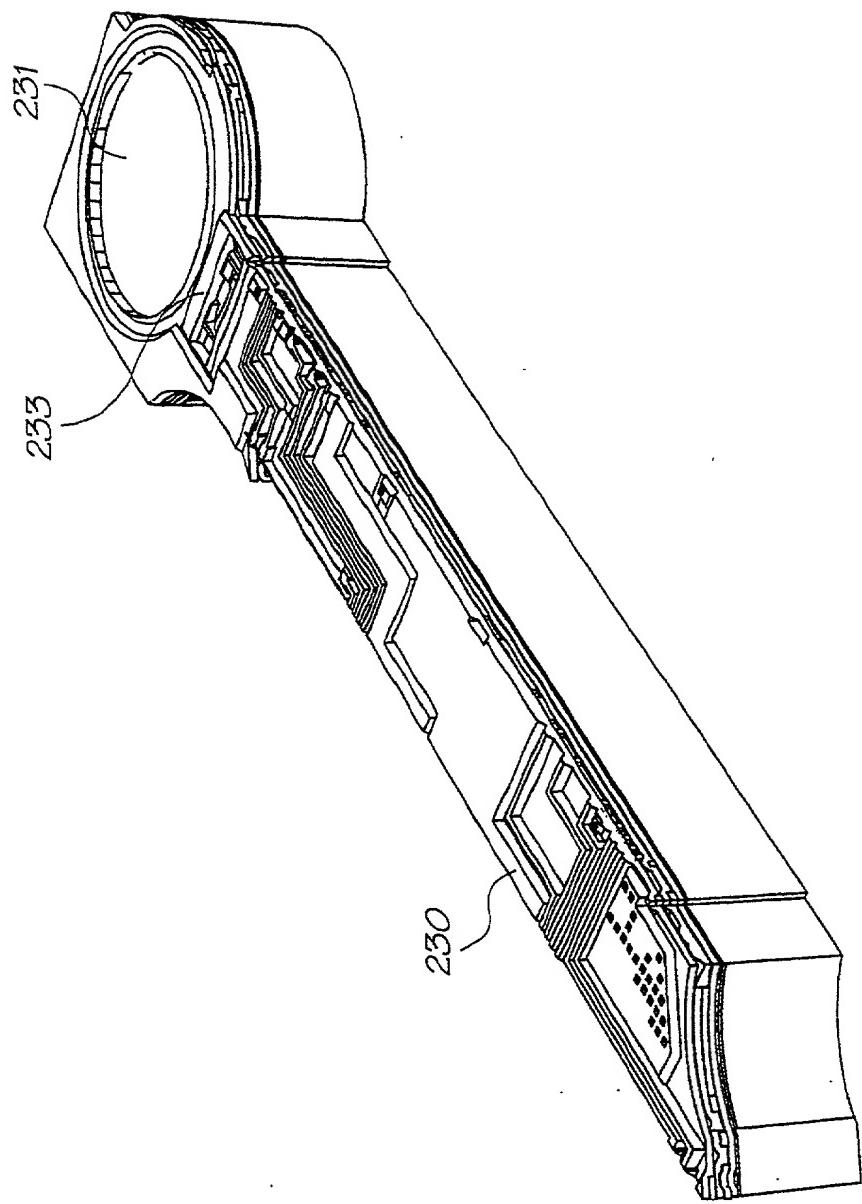
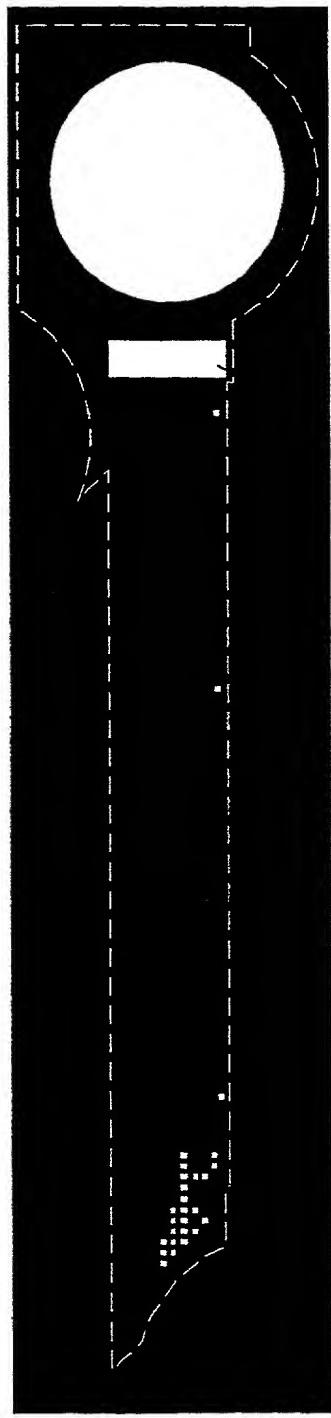


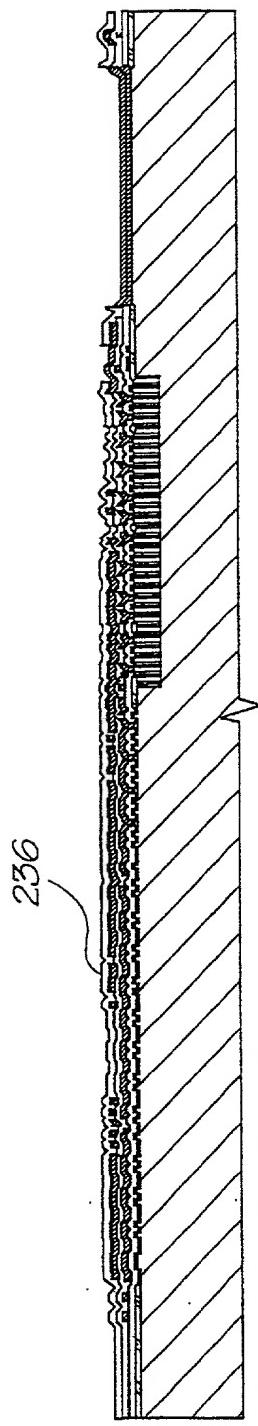
FIG. 44

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Via 2 mask

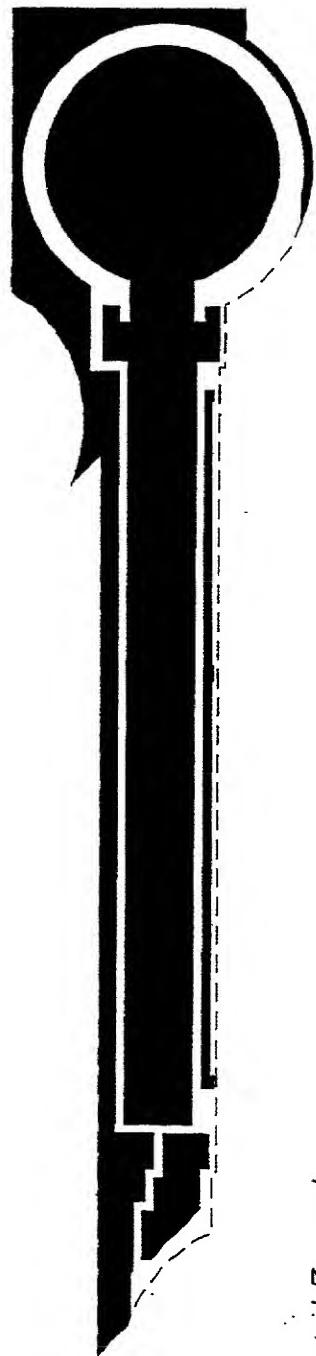
FIG. 45



Deposit ILD 3, etch vias

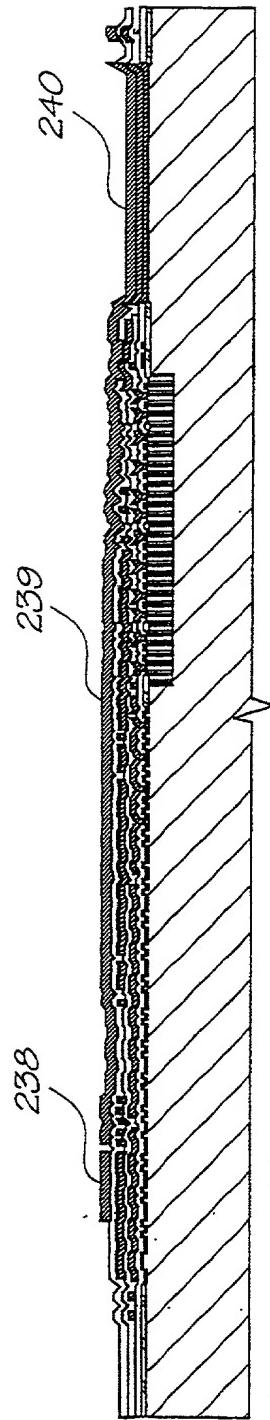
FIG. 46

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Metal 3 mask

FIG. 47



Deposit metal 3

FIG. 48

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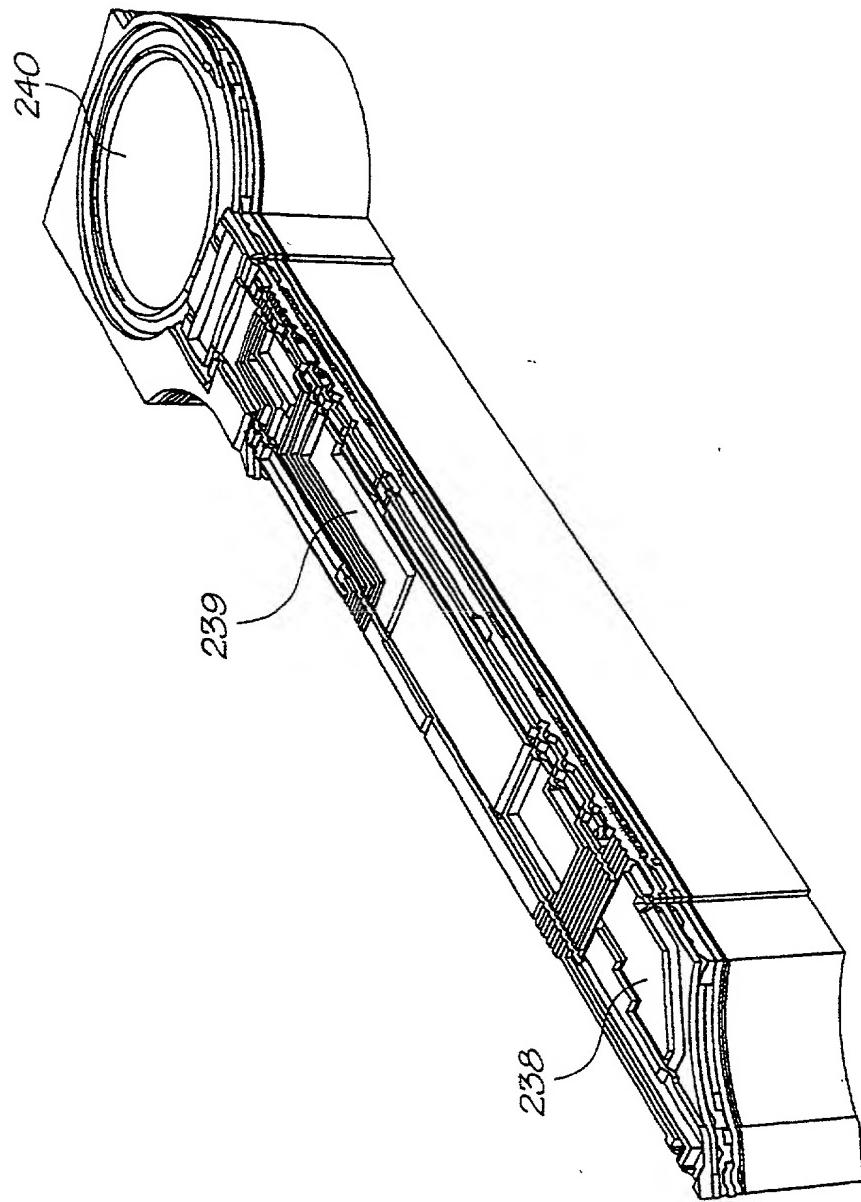


FIG. 49

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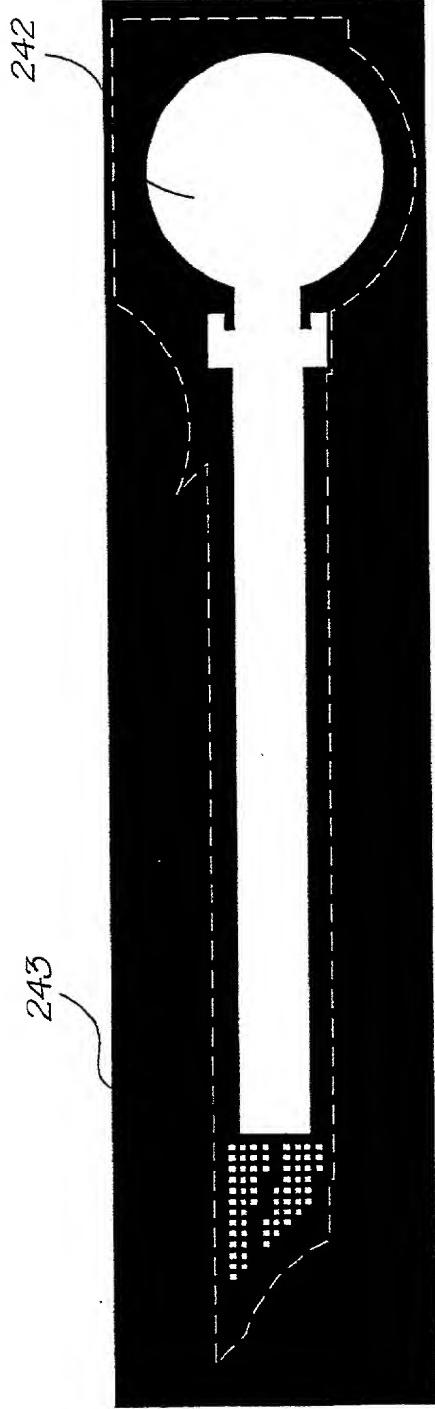


FIG. 50

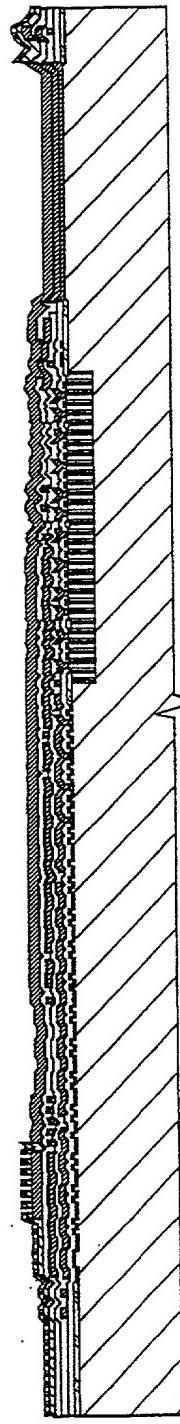


FIG. 51

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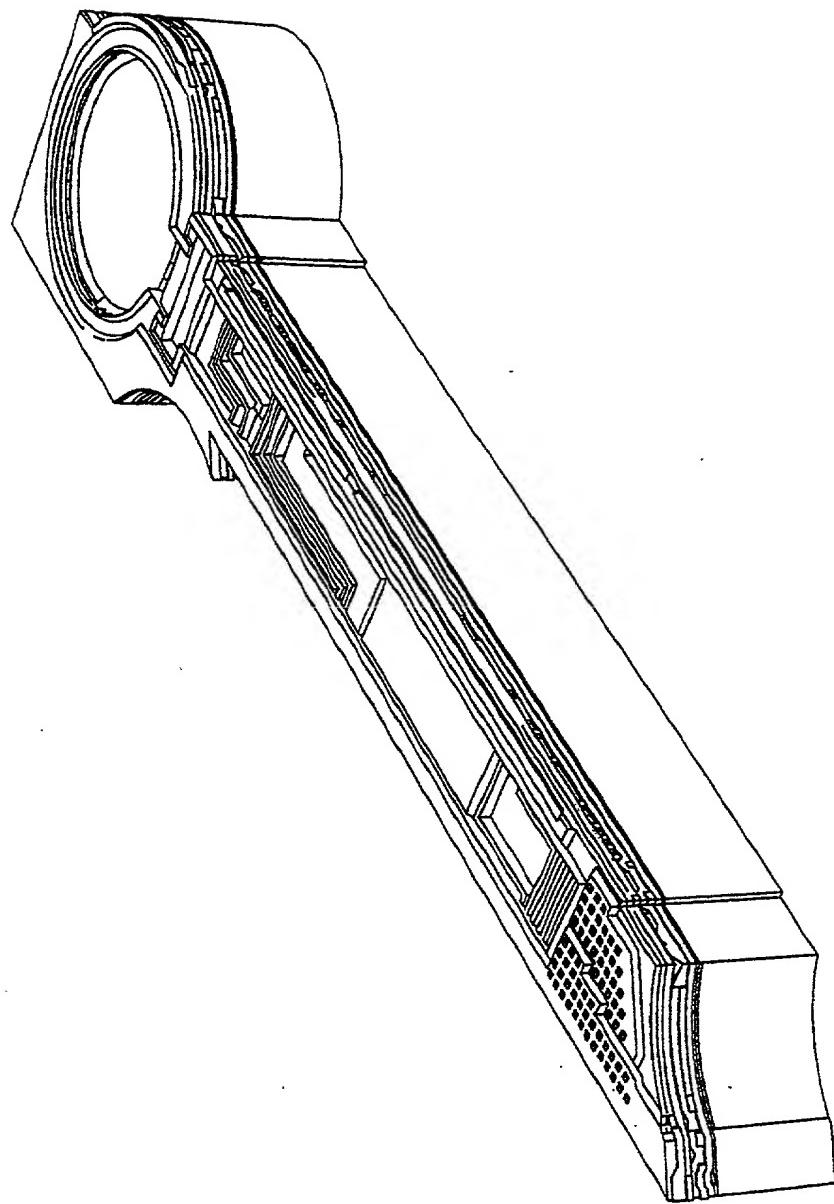
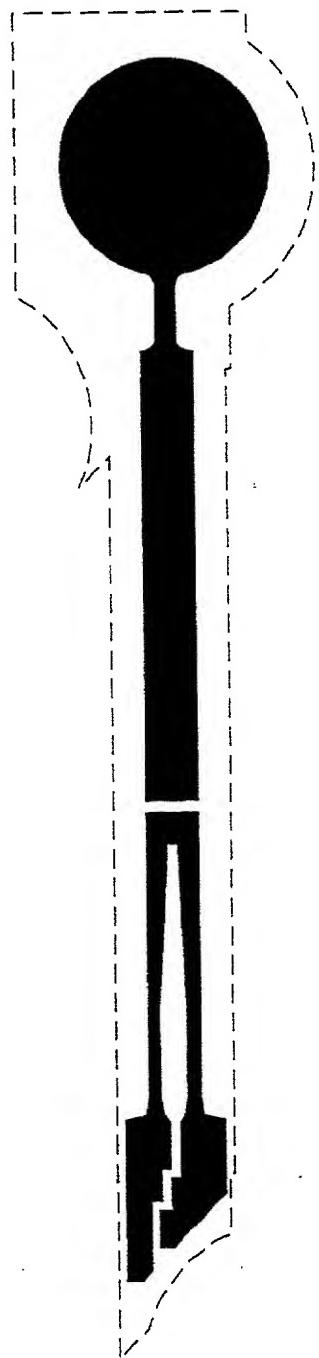


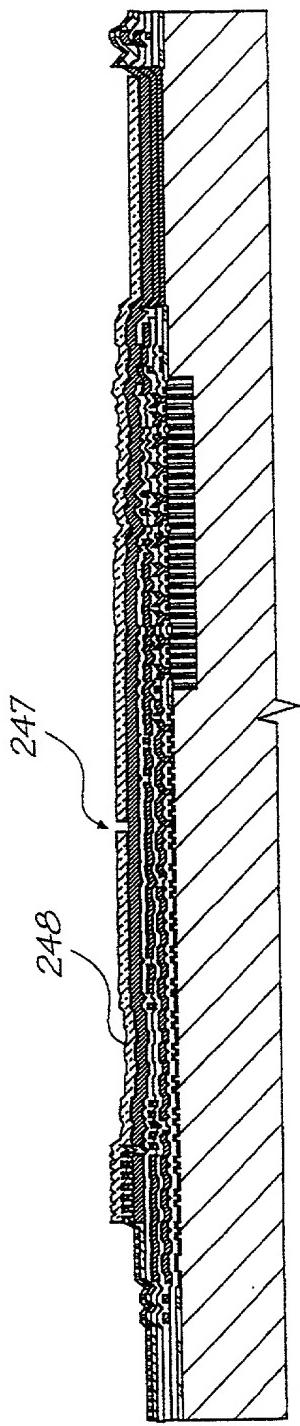
FIG. 52

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Heater mask

FIG. 53



Deposit heater TiN

FIG. 54

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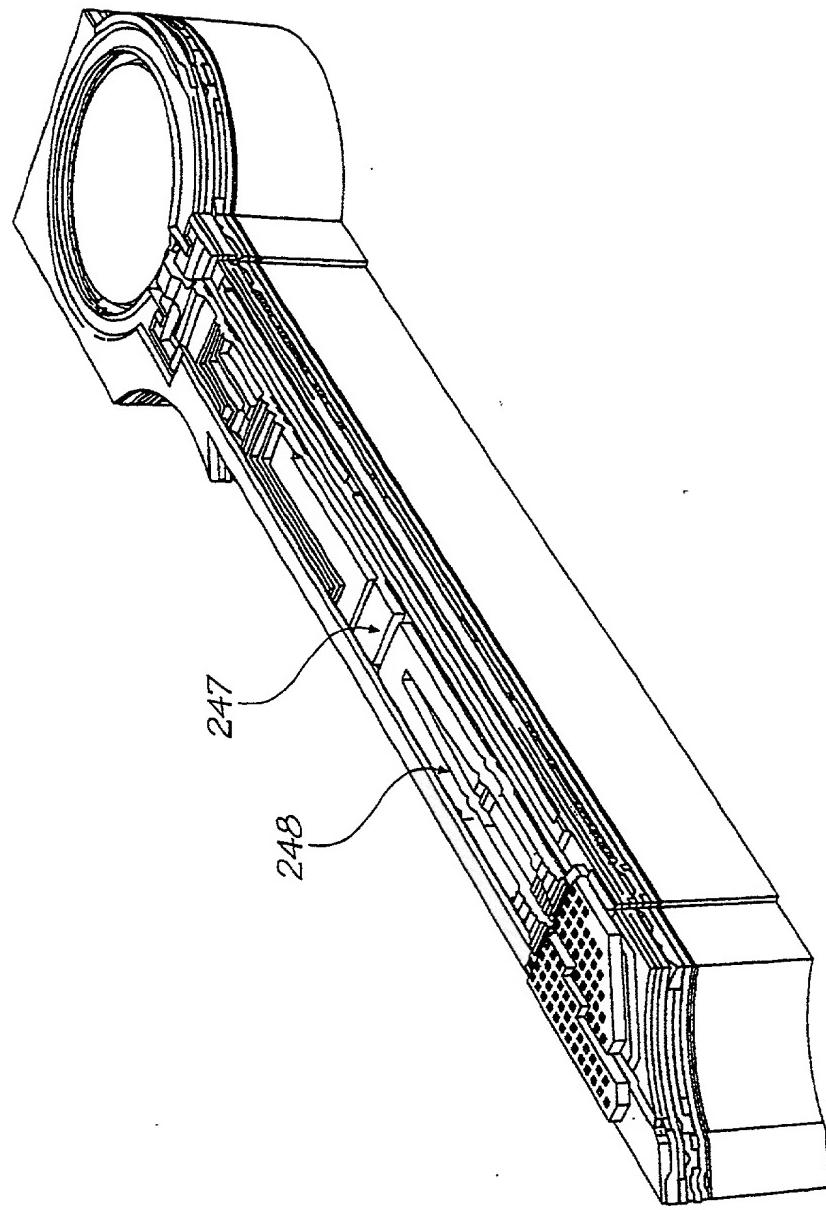
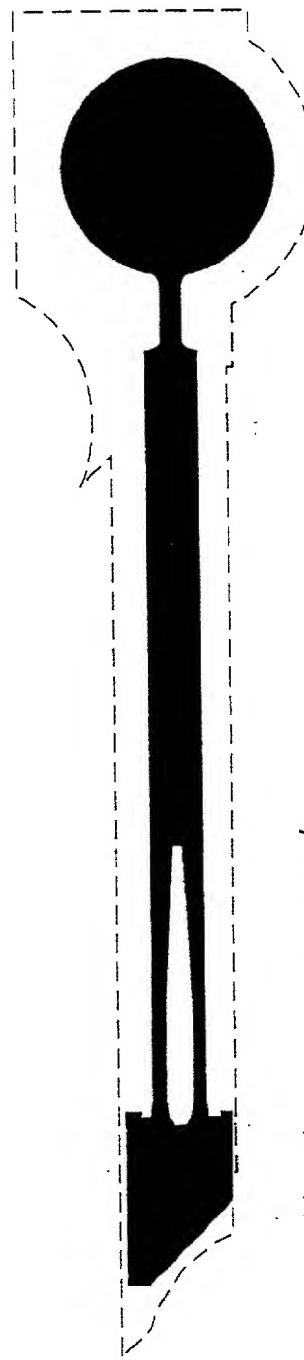


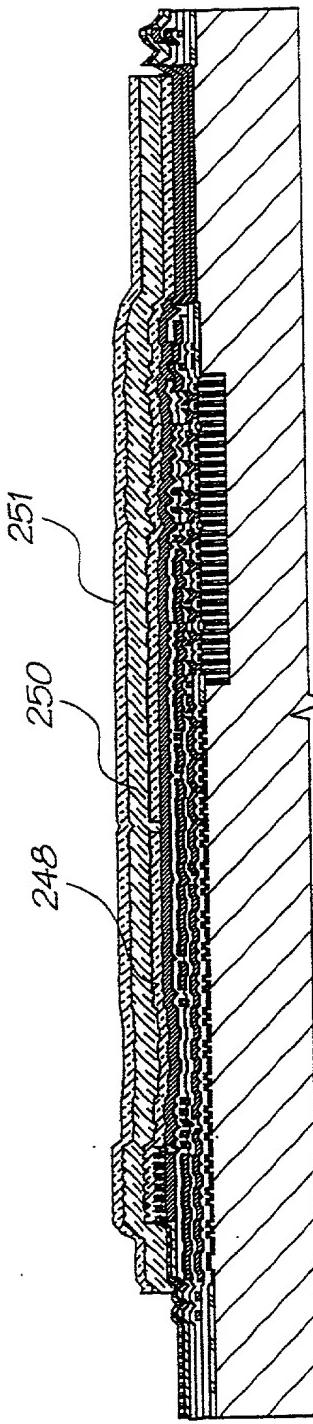
FIG. 55

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Actuator / bend compensator mask

FIG. 56



Deposit actuator glass and bend compensator TiN, etch together

FIG. 57

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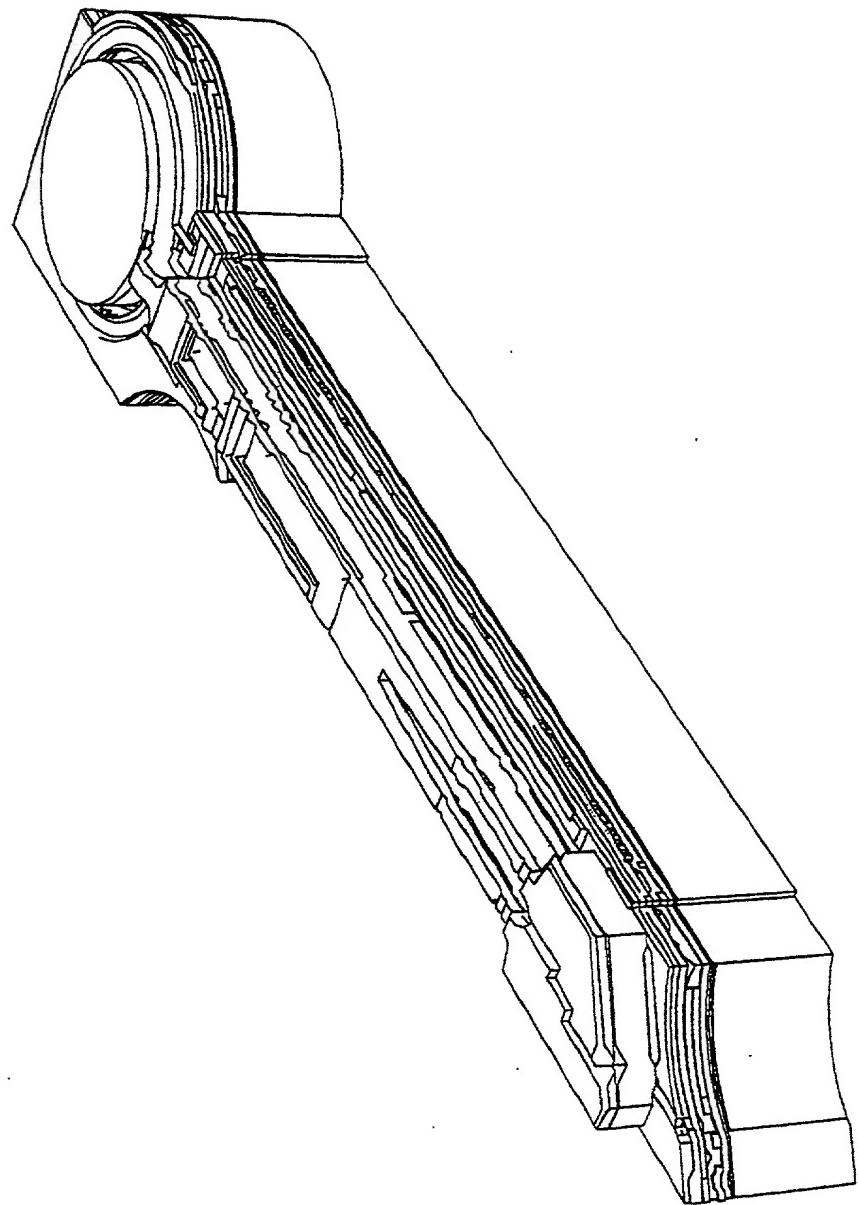


FIG. 58

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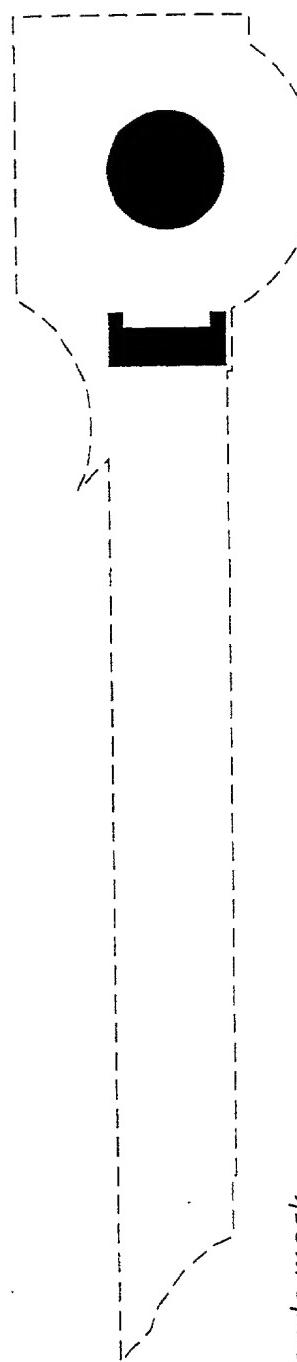
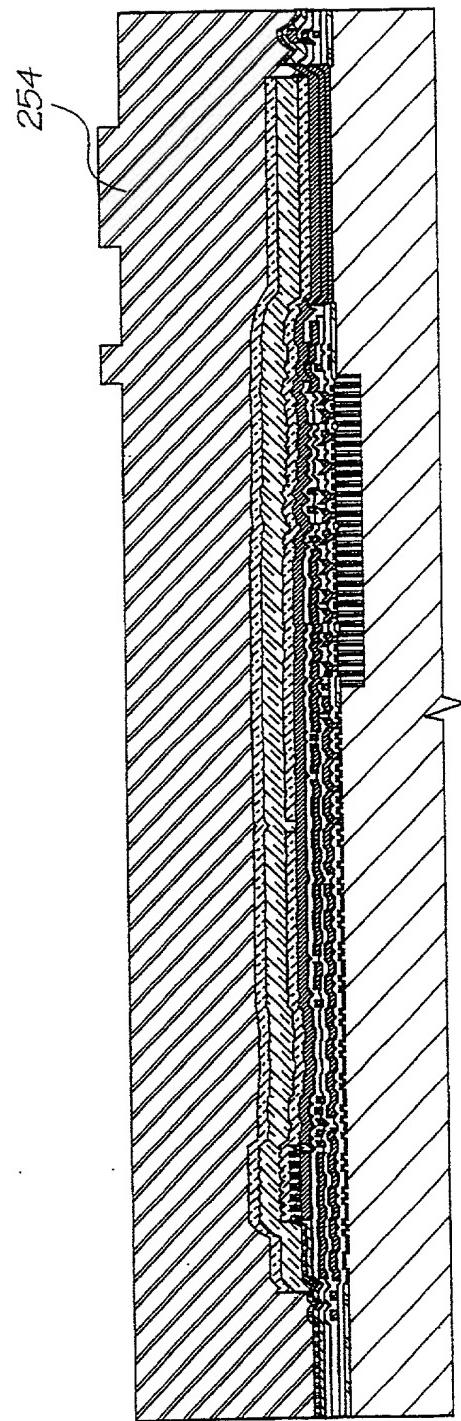


FIG. 59  
Nozzle mask



Deposit sacrificial layer; etch nozzles

FIG. 60

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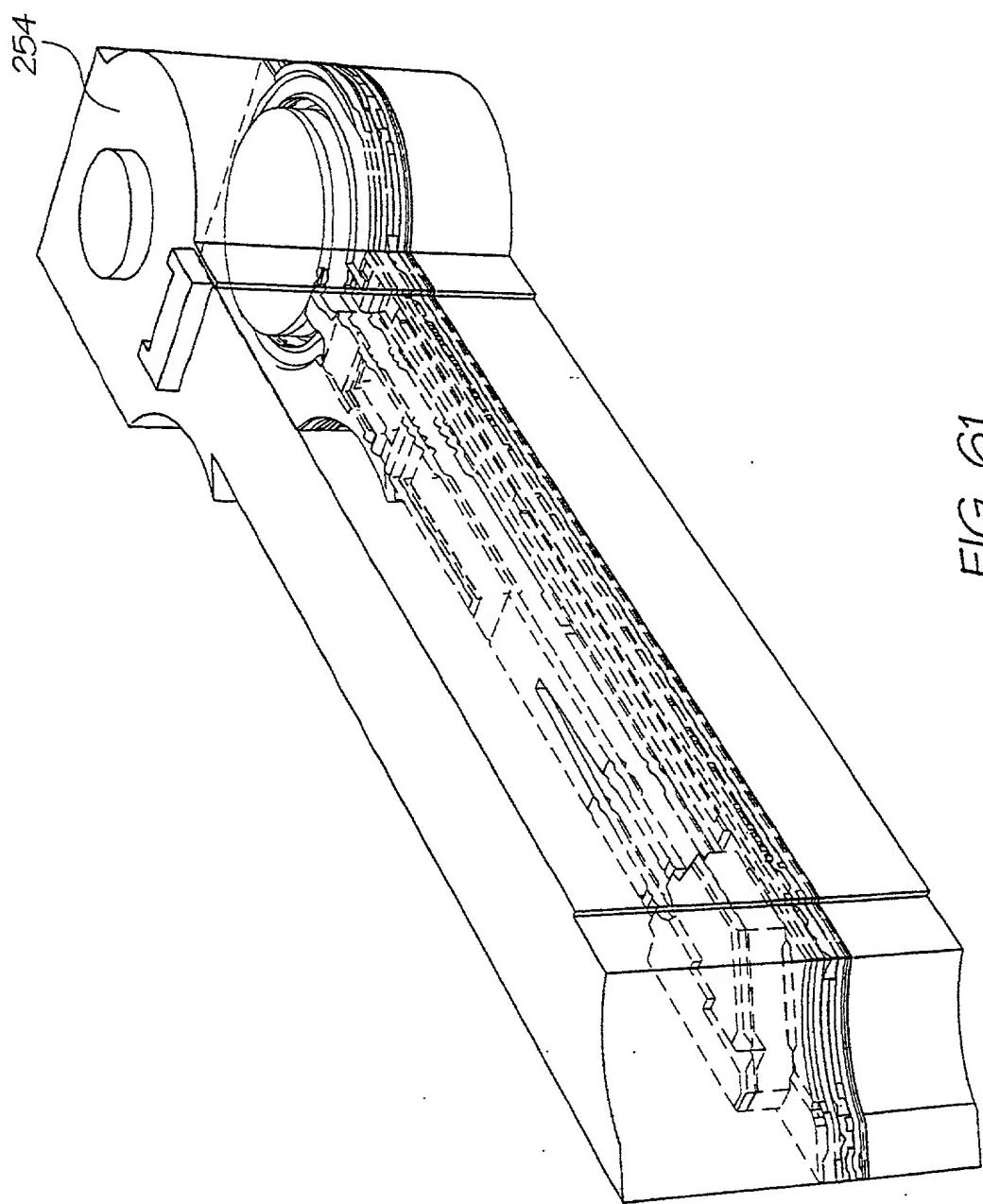
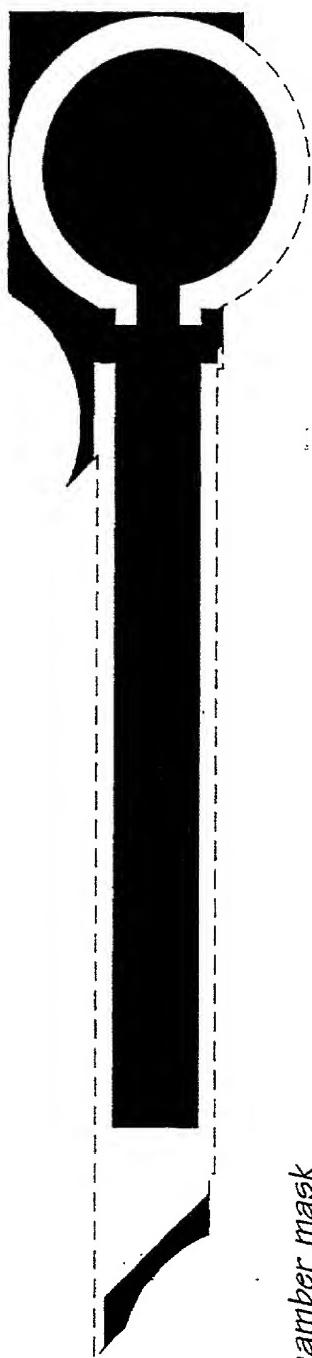


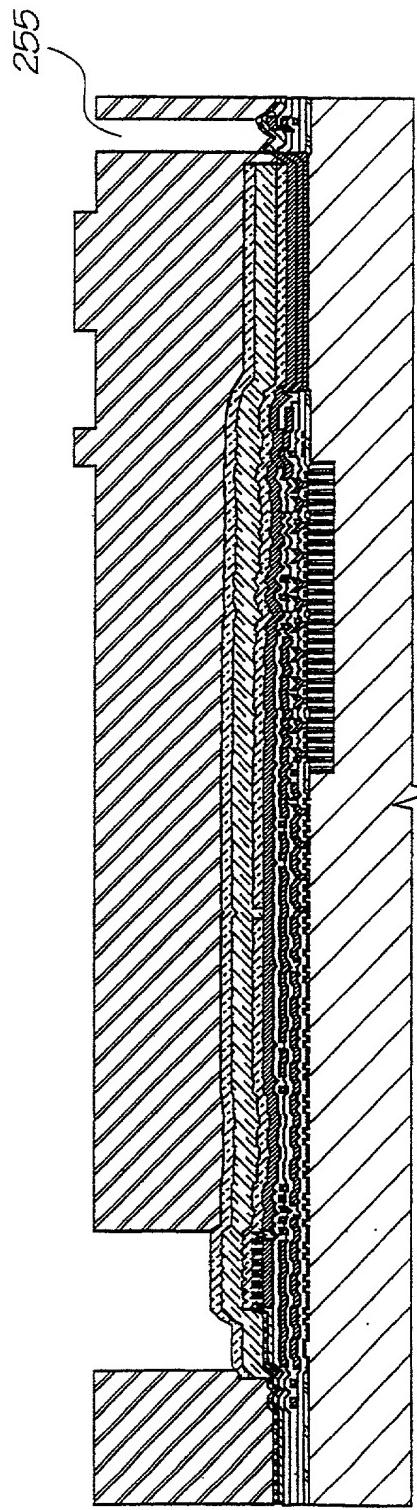
FIG. 61

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Chamber mask

FIG. 62



Etch chambers in sacrificial layer

FIG. 63

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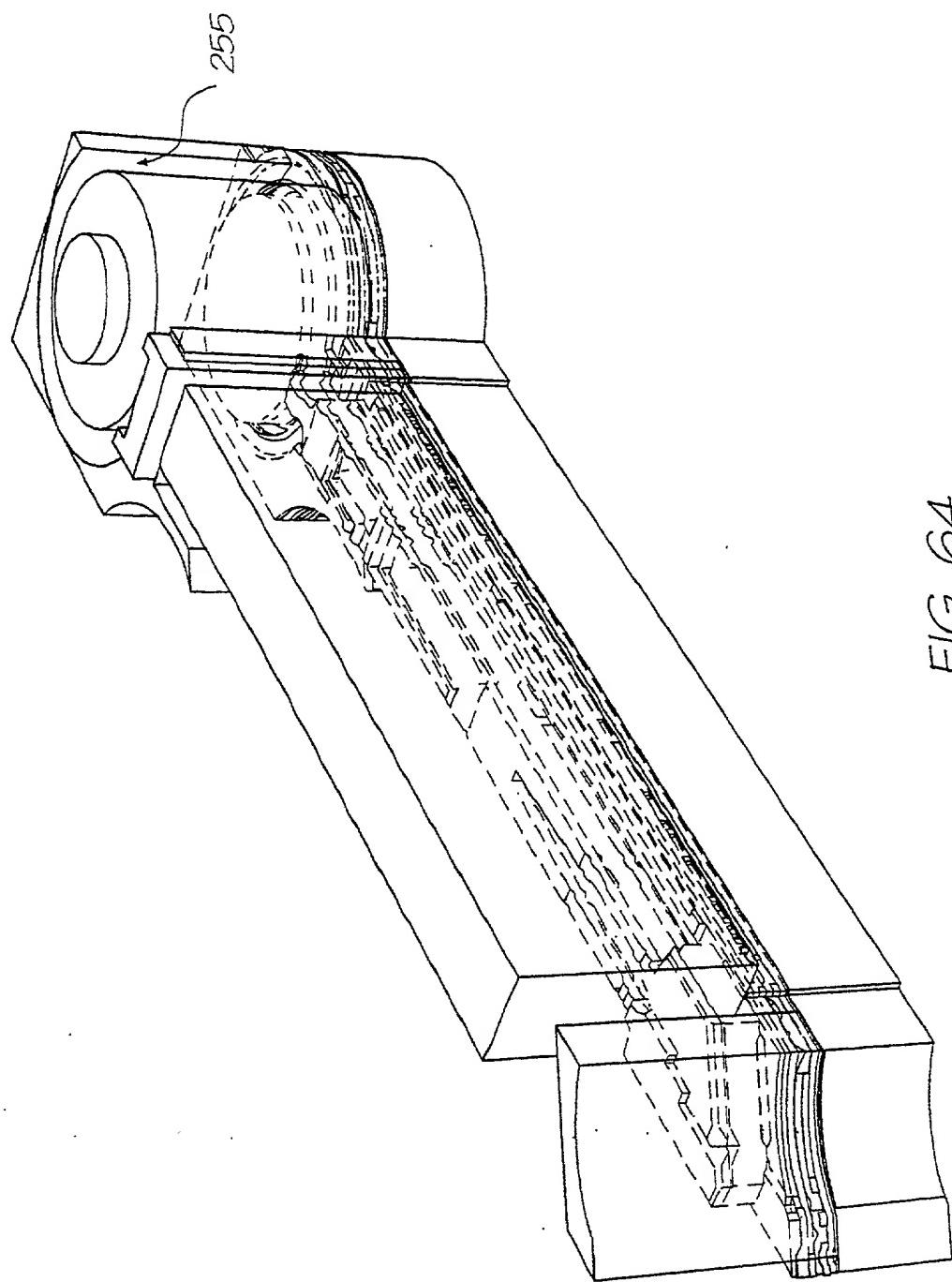
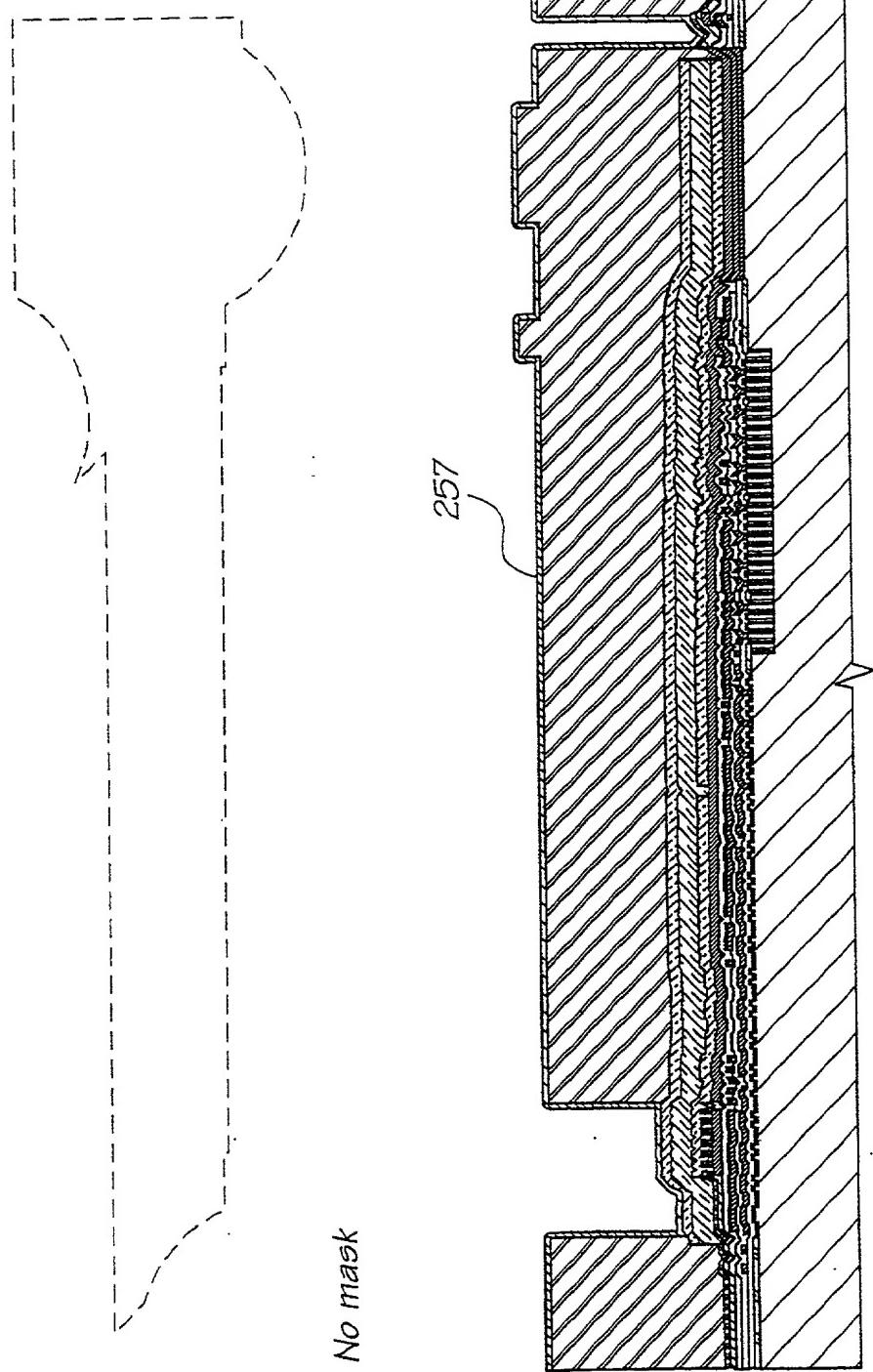


FIG. 64

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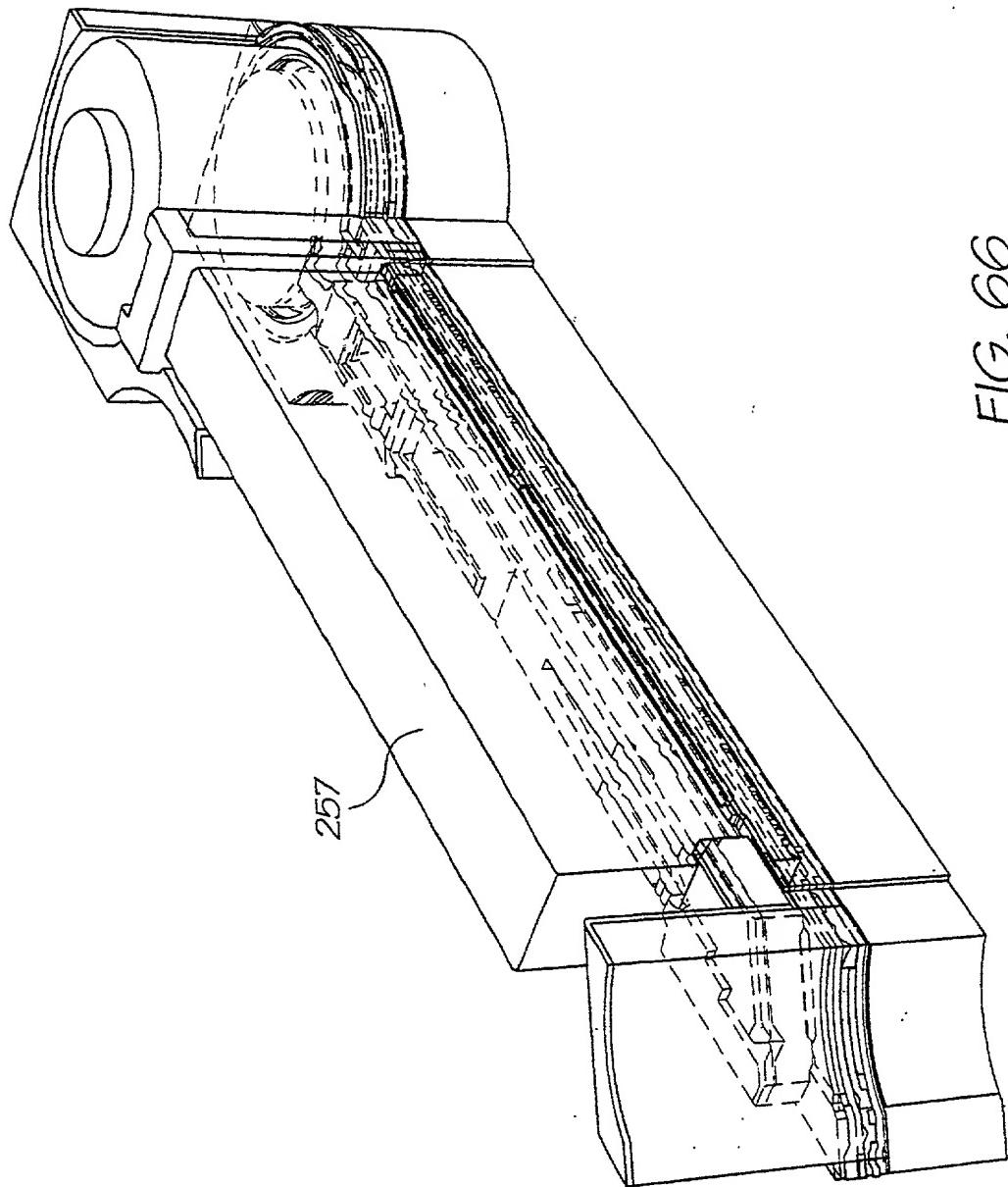


Deposit chamber walls

FIG. 65

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FIG. 66



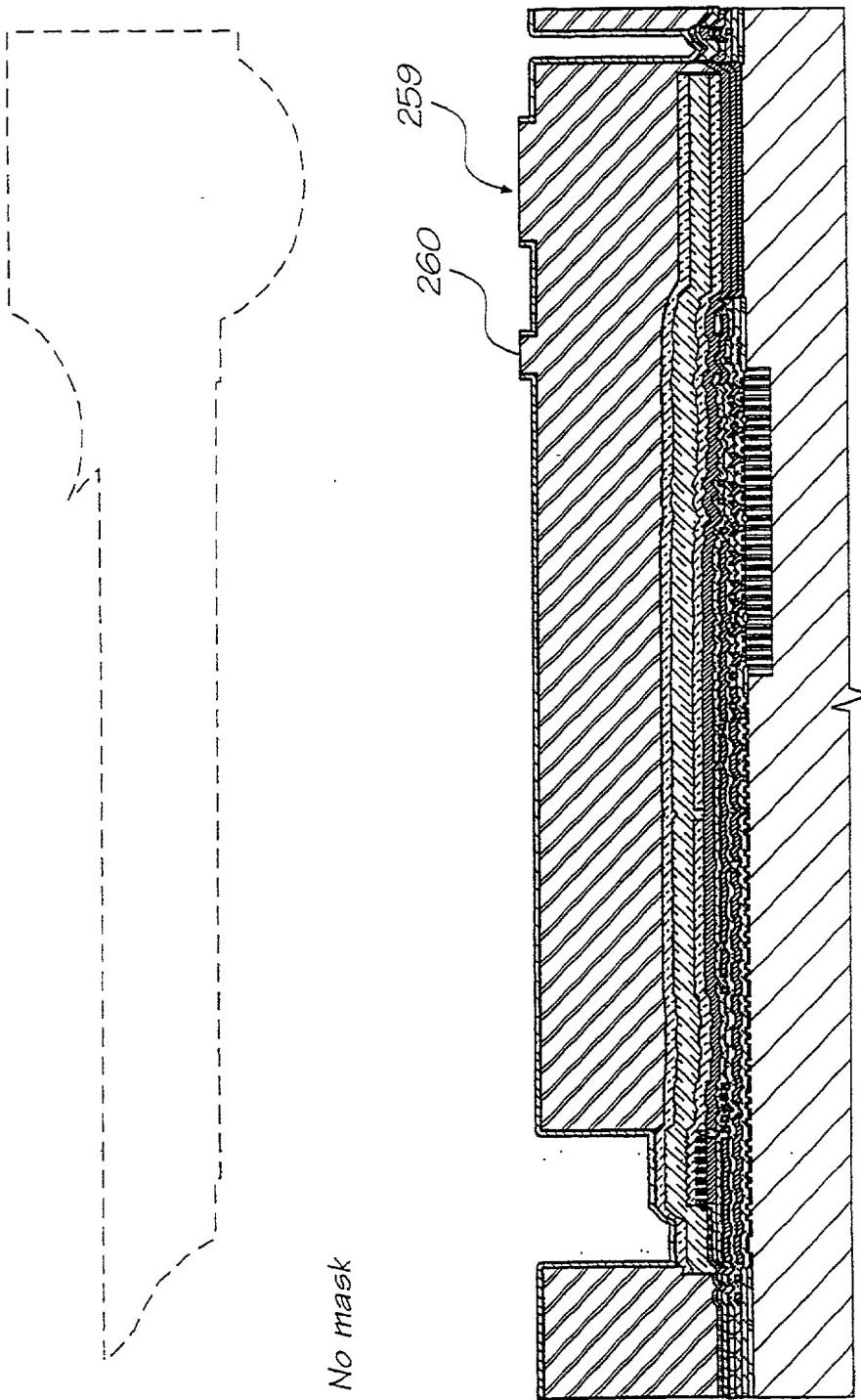


FIG. 67

Form self-aligned nozzles using CMP

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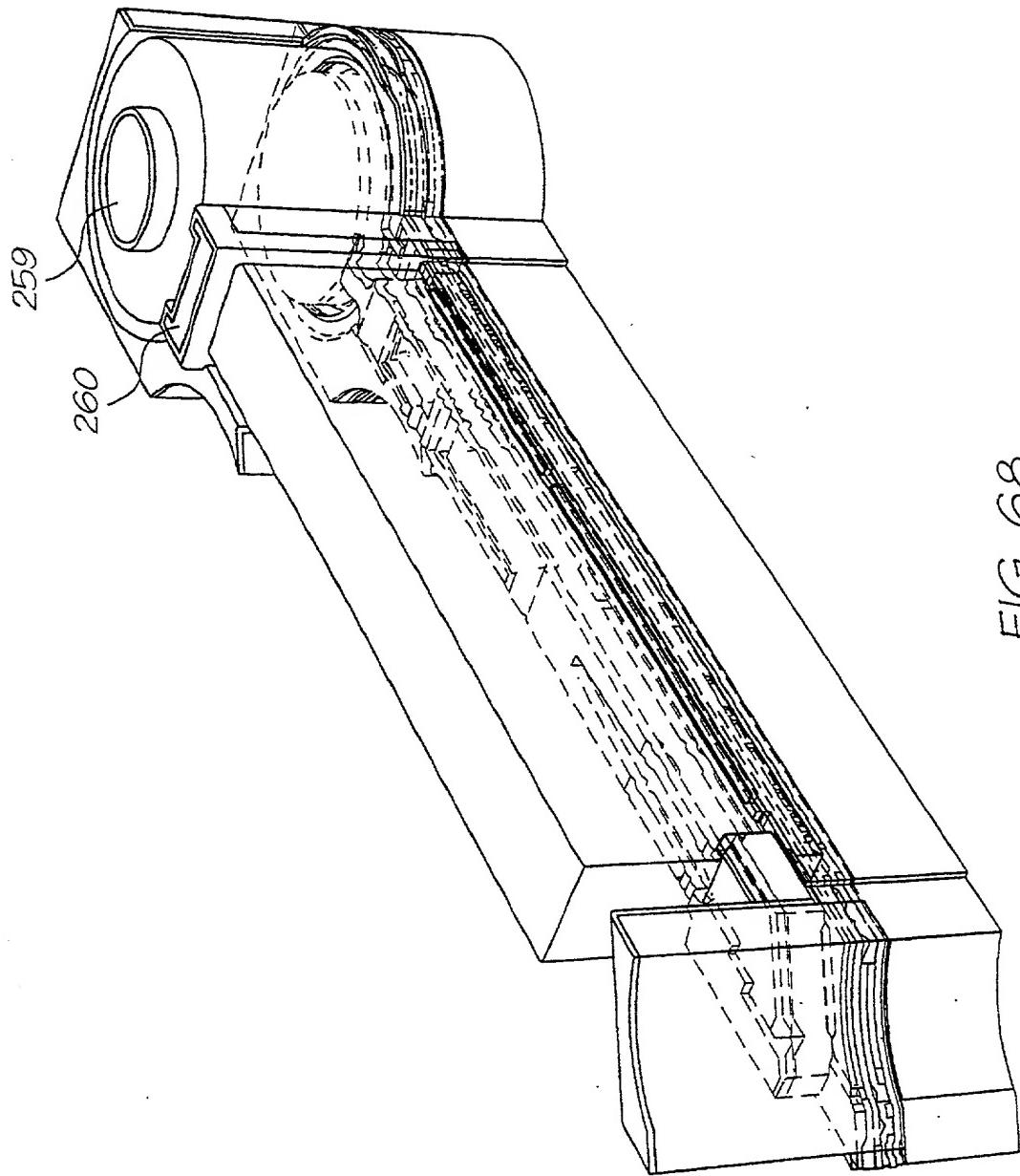
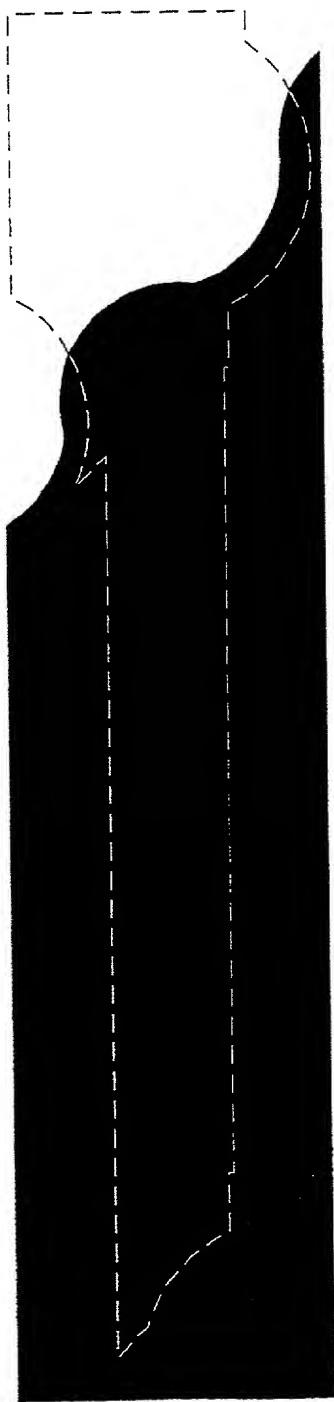


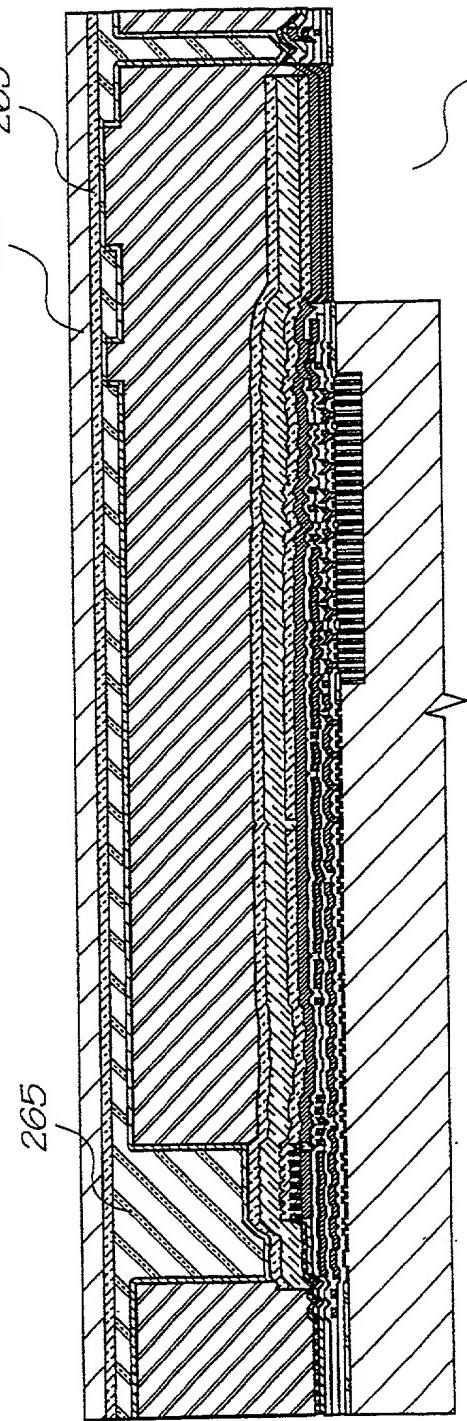
FIG. 68

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Back-etch inlet mask

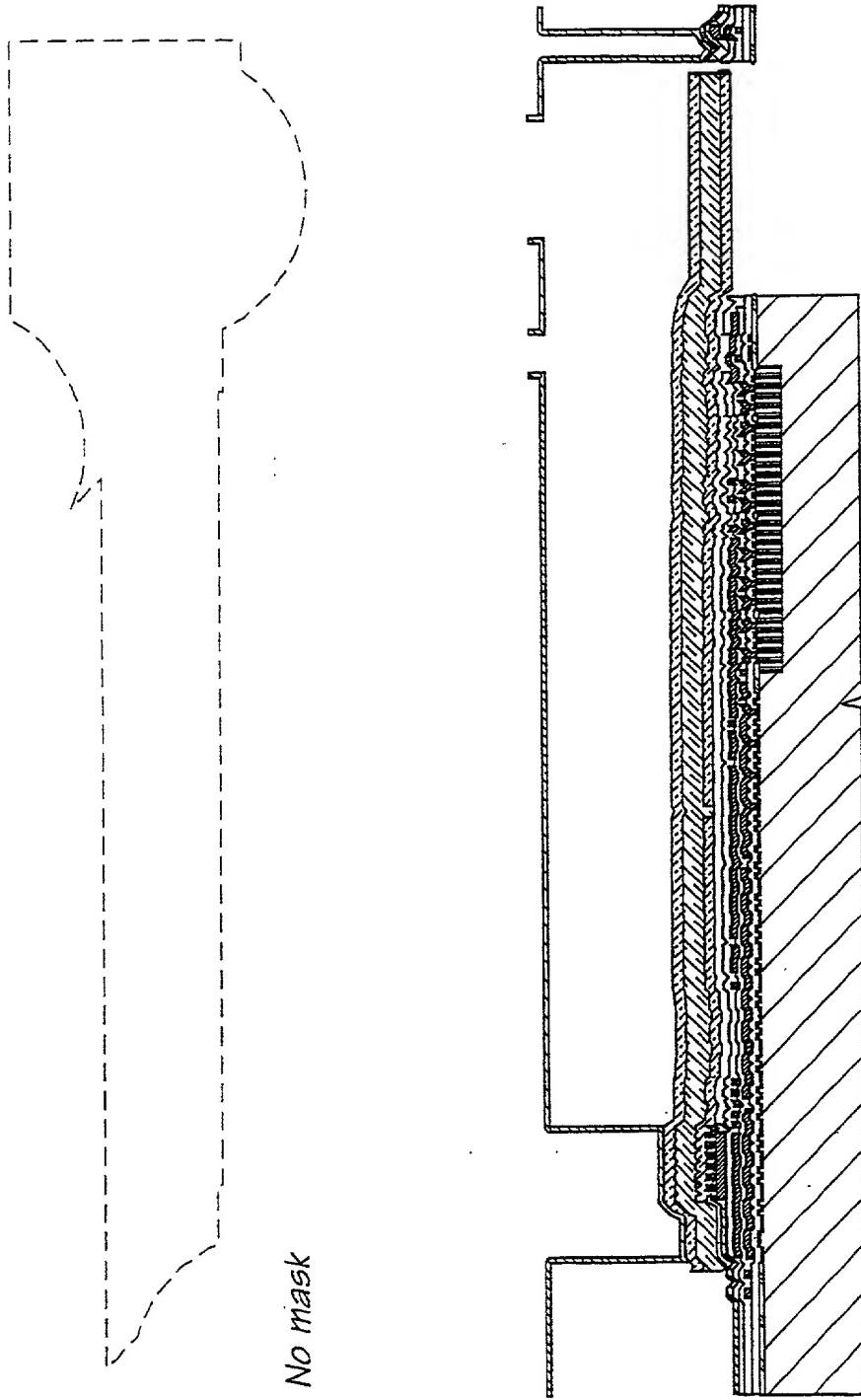
FIG. 70



Mount on wafer blank, back-etch inlets

FIG. 69

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*Detach from wafer blank, etch sacrificial material*

*FIG. 71*

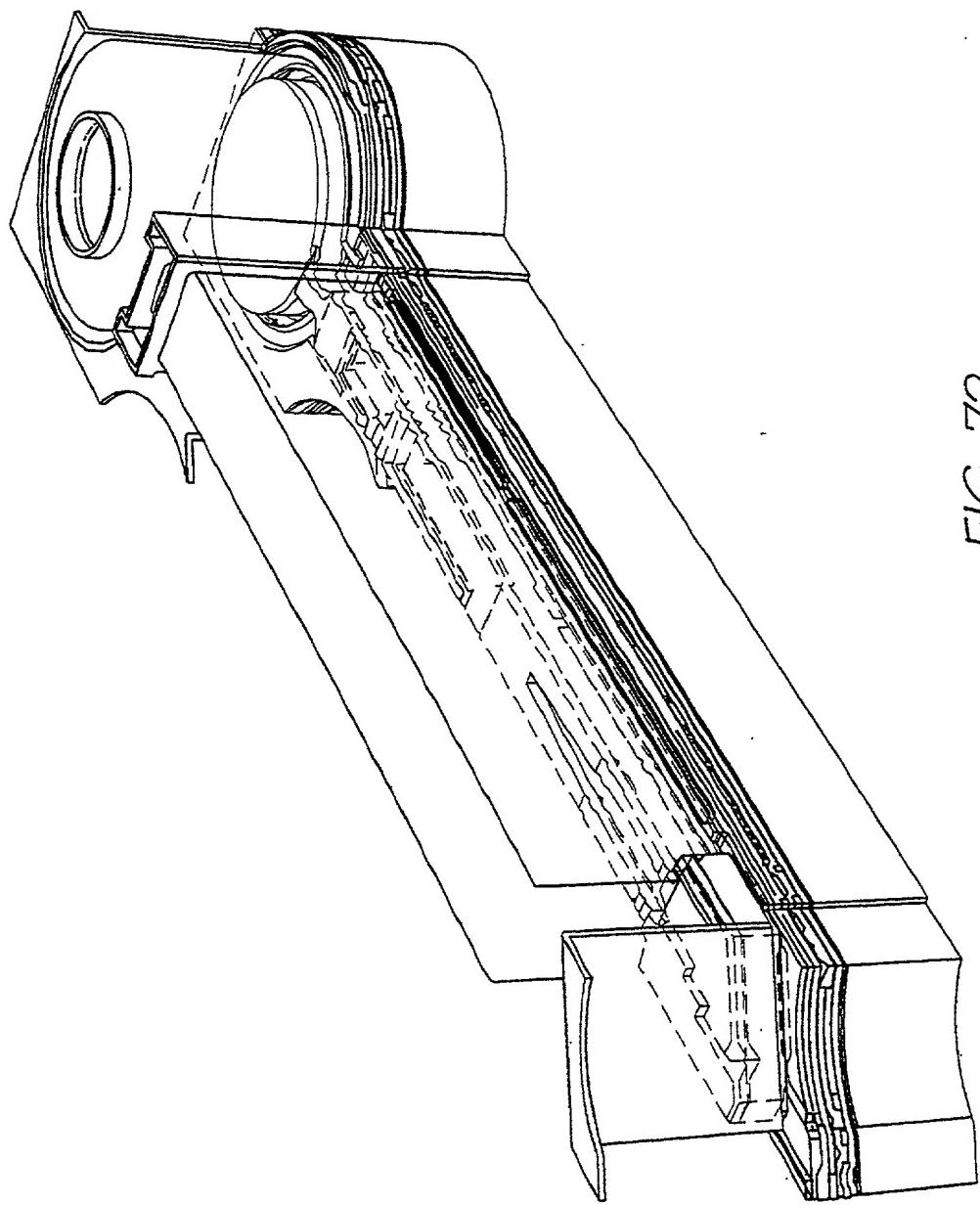


FIG. 72

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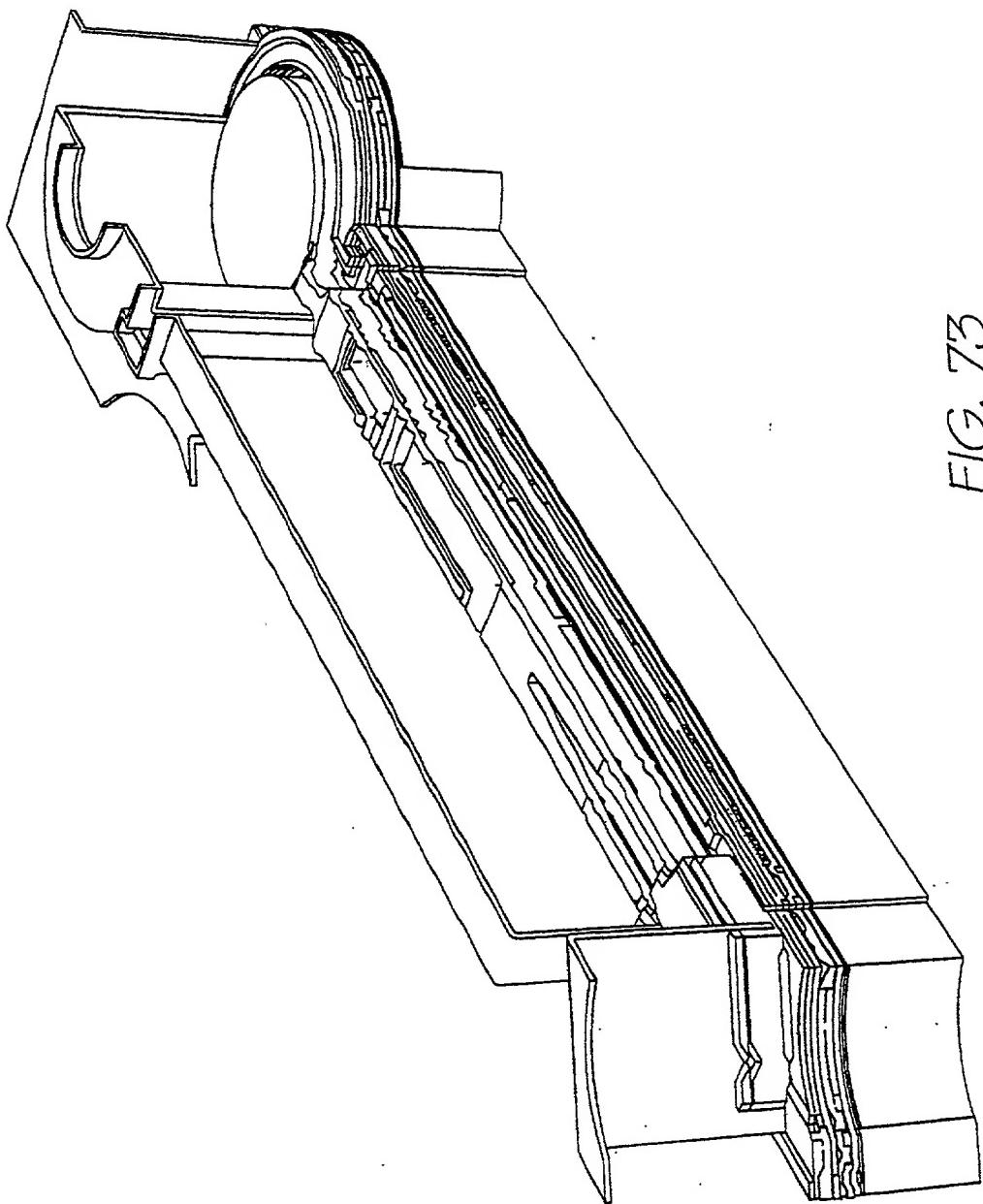


FIG. 73

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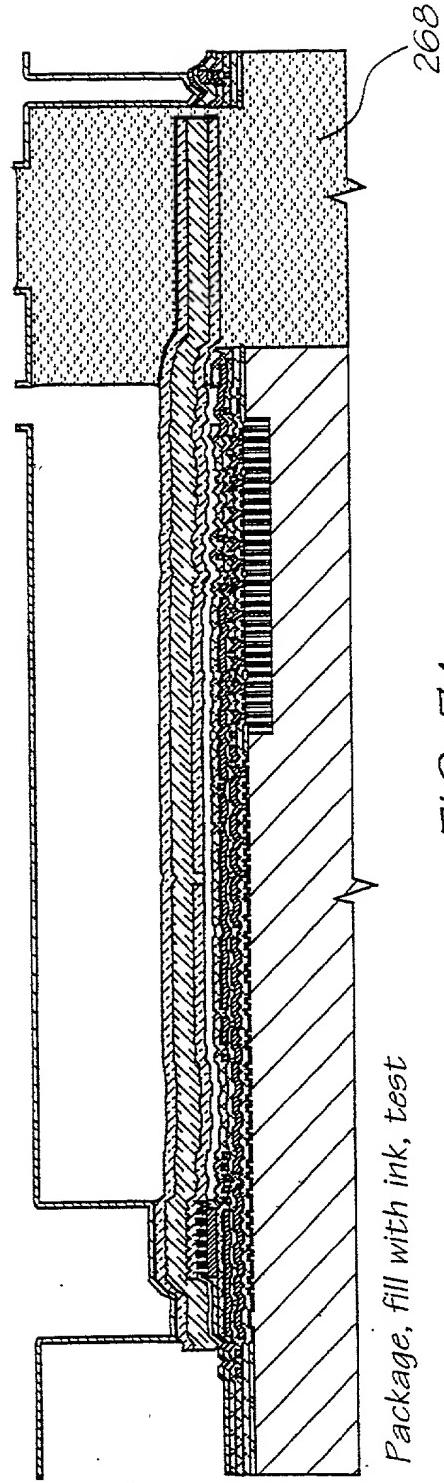
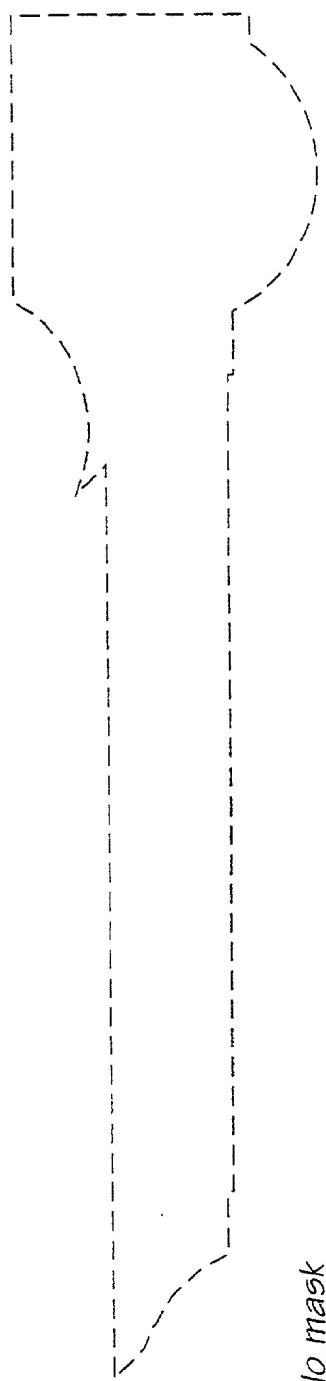


FIG. 74

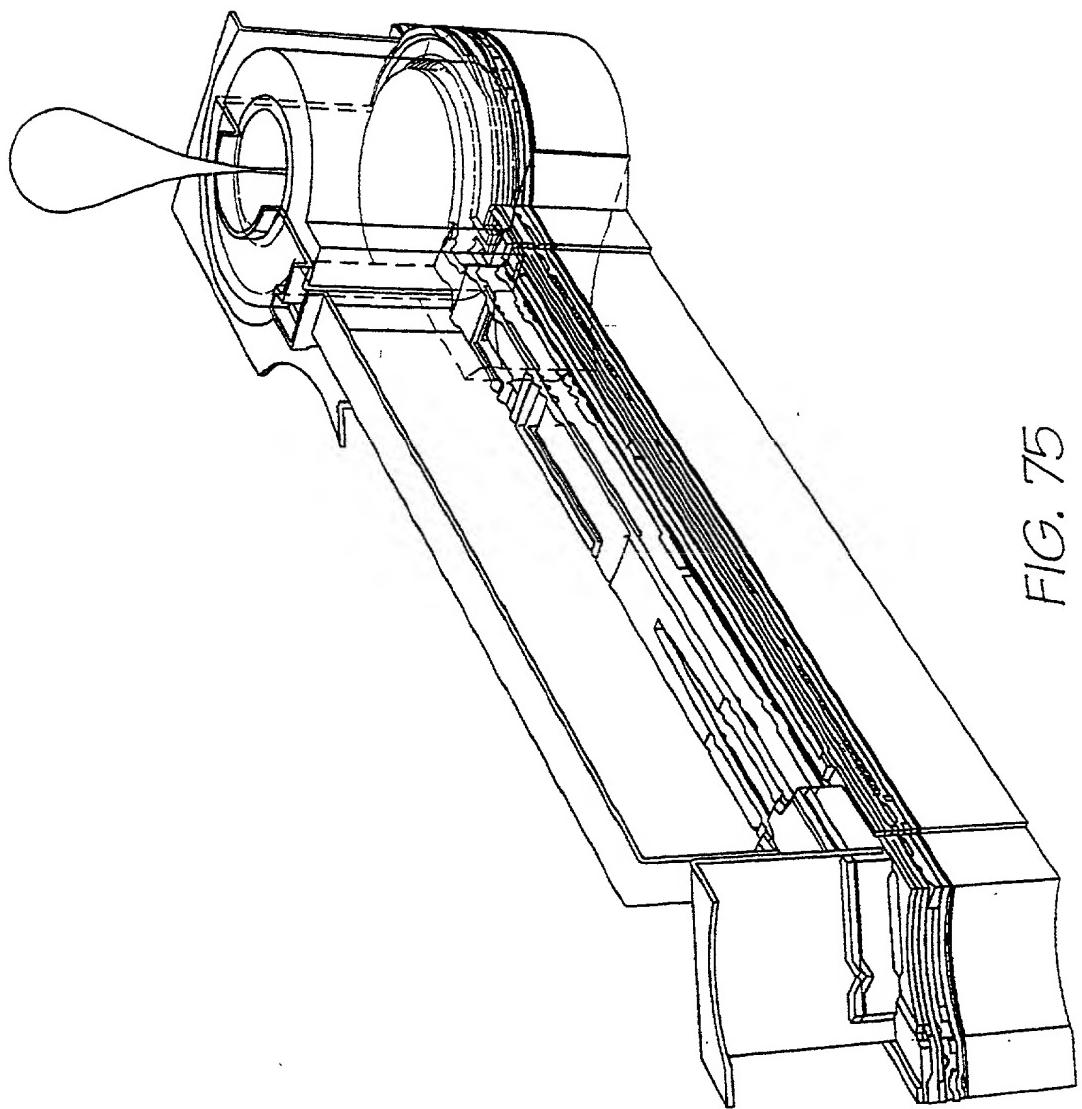


FIG. 75

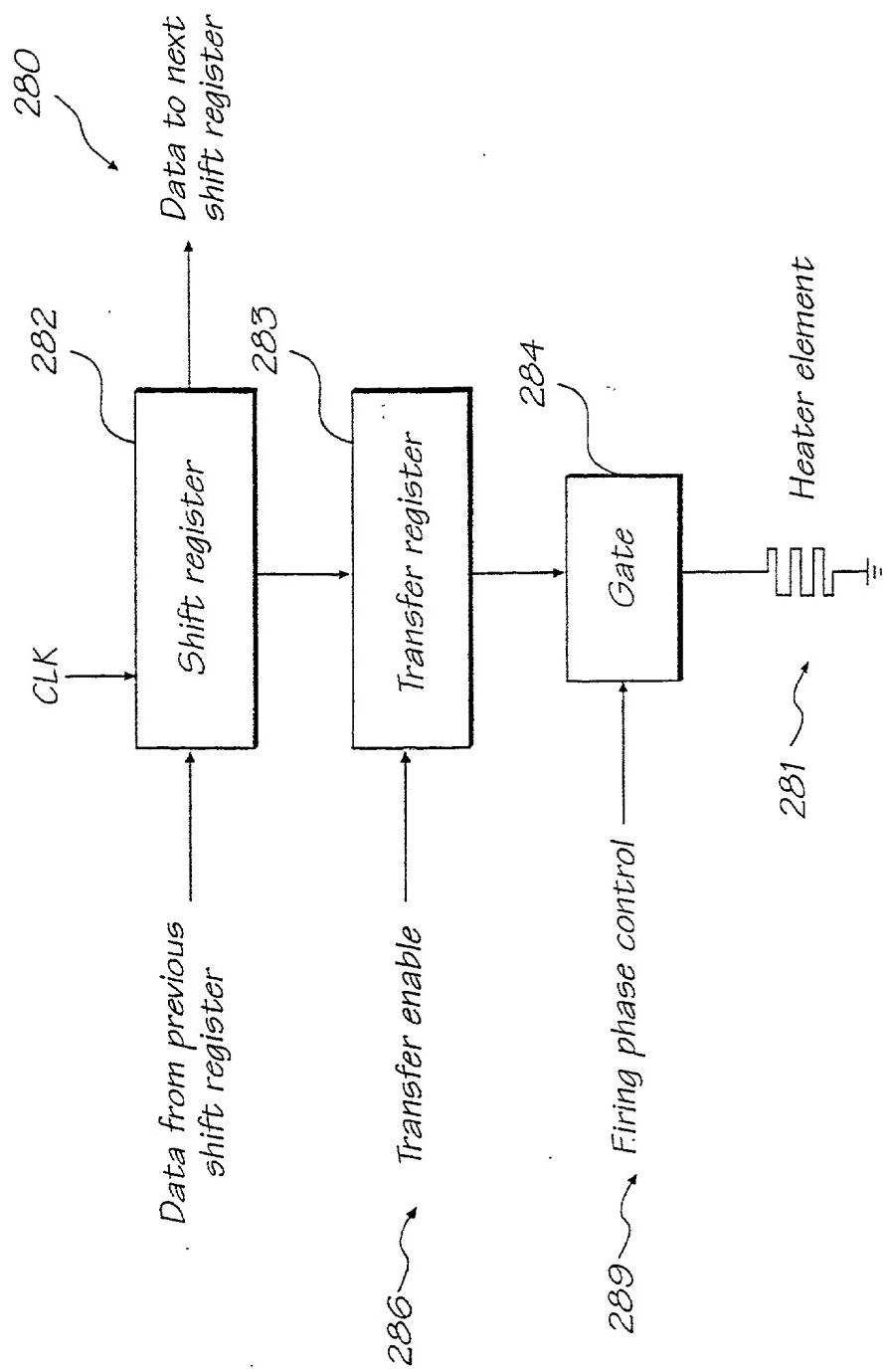


FIG. 76

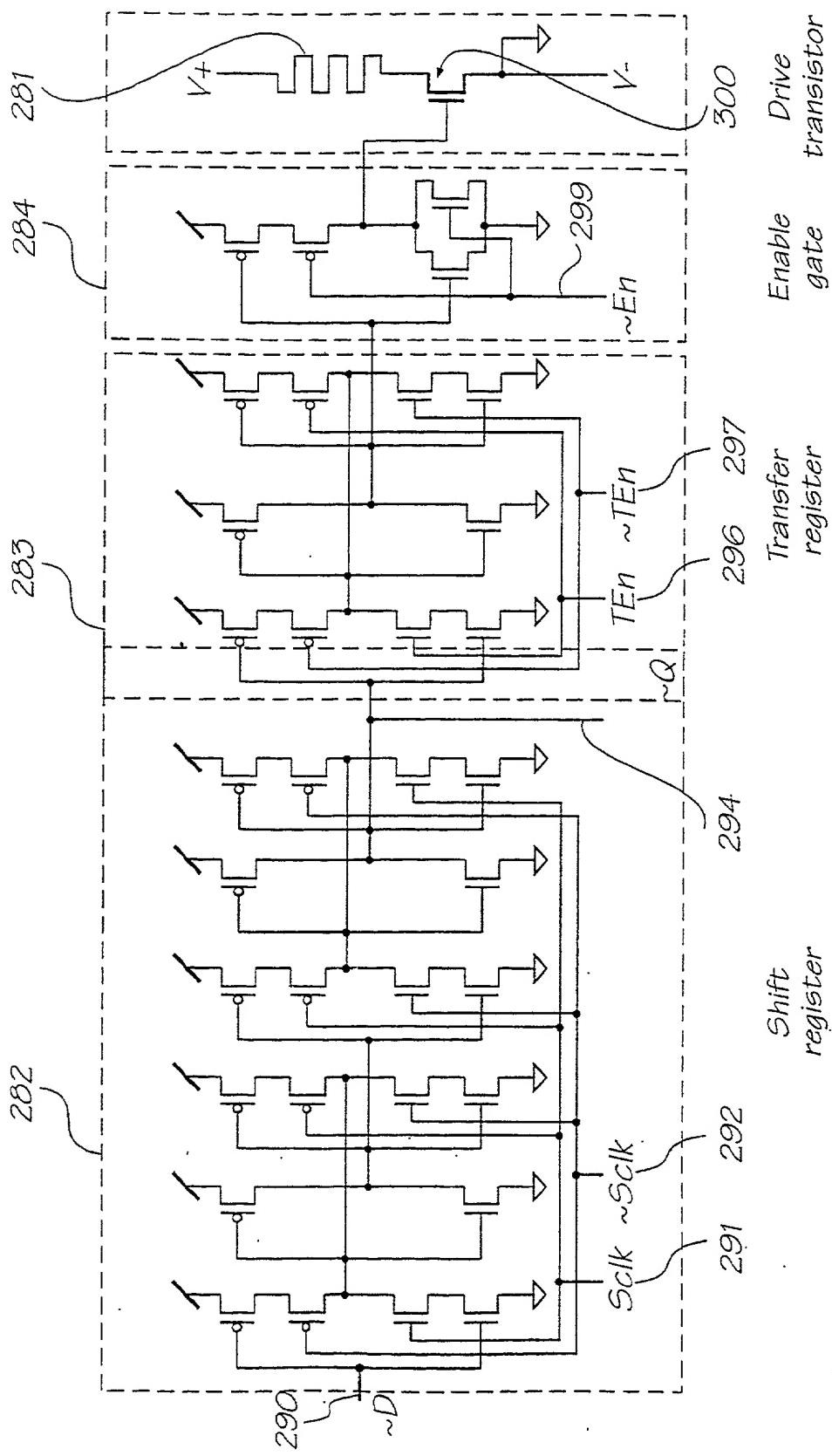


FIG. 77

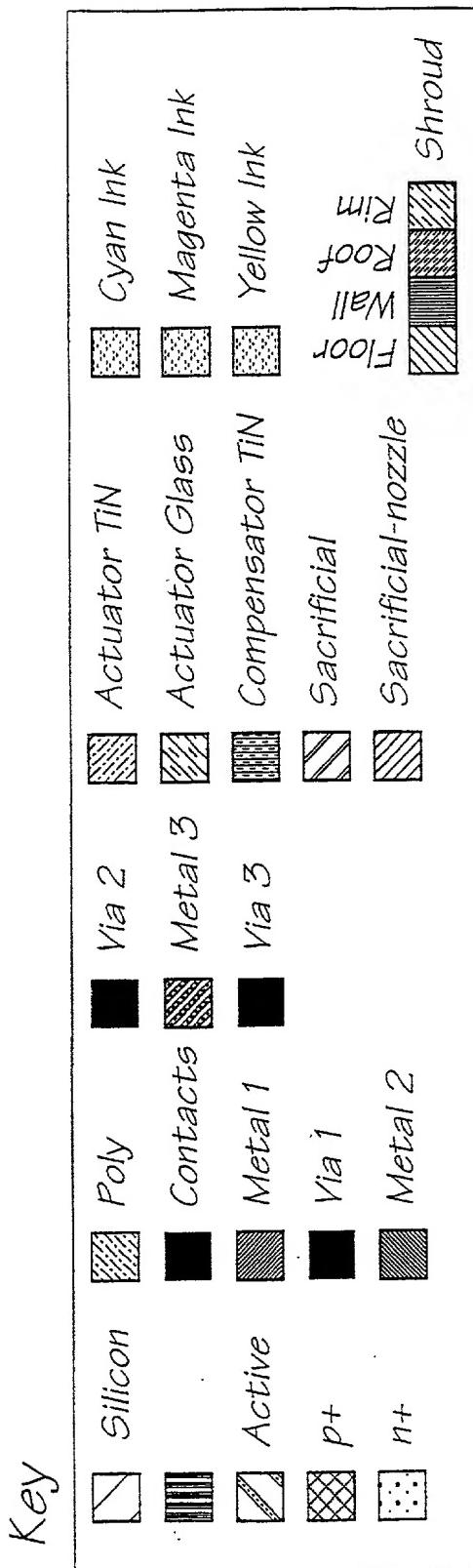


FIG. 78

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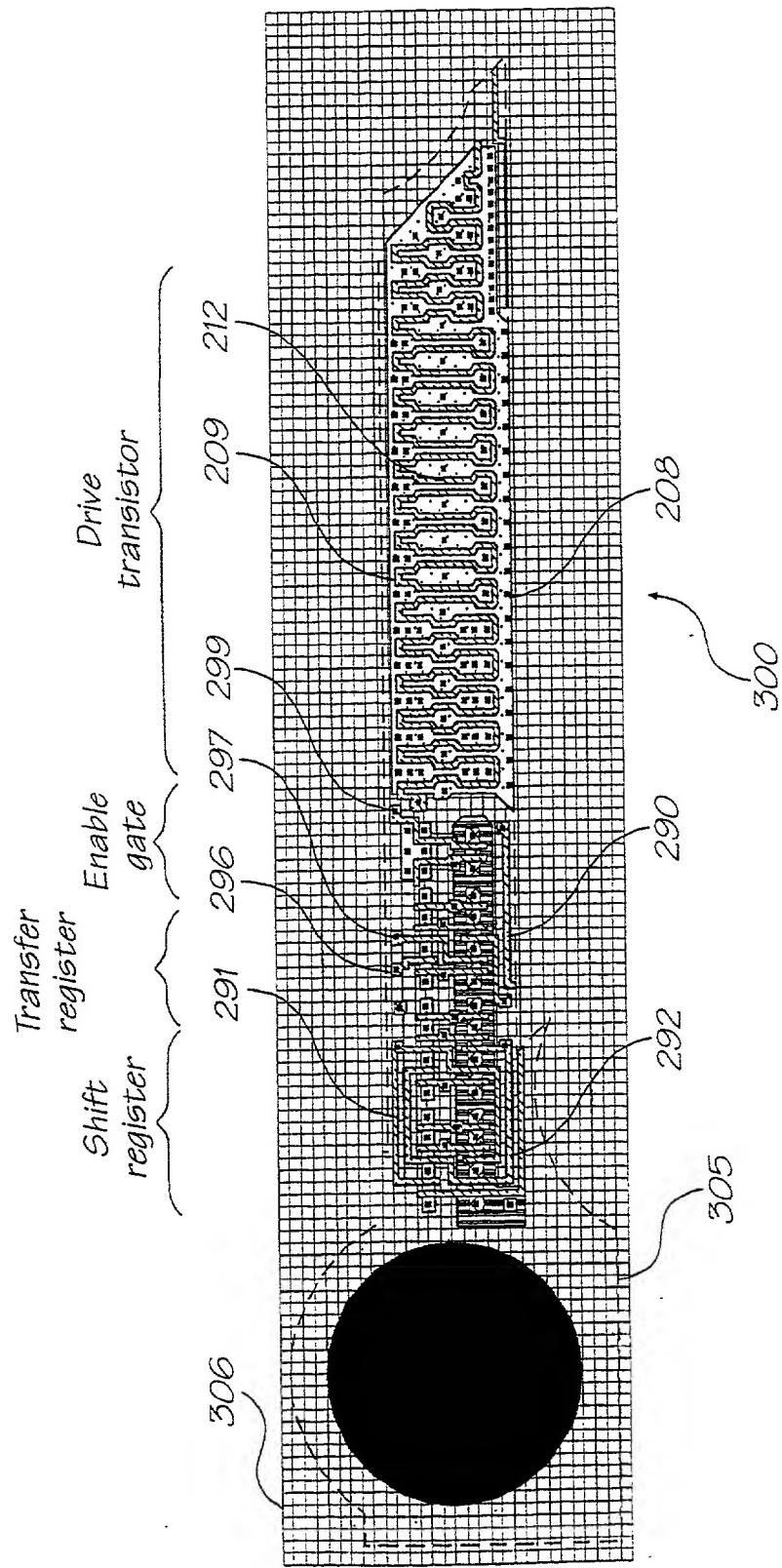


FIG. 79

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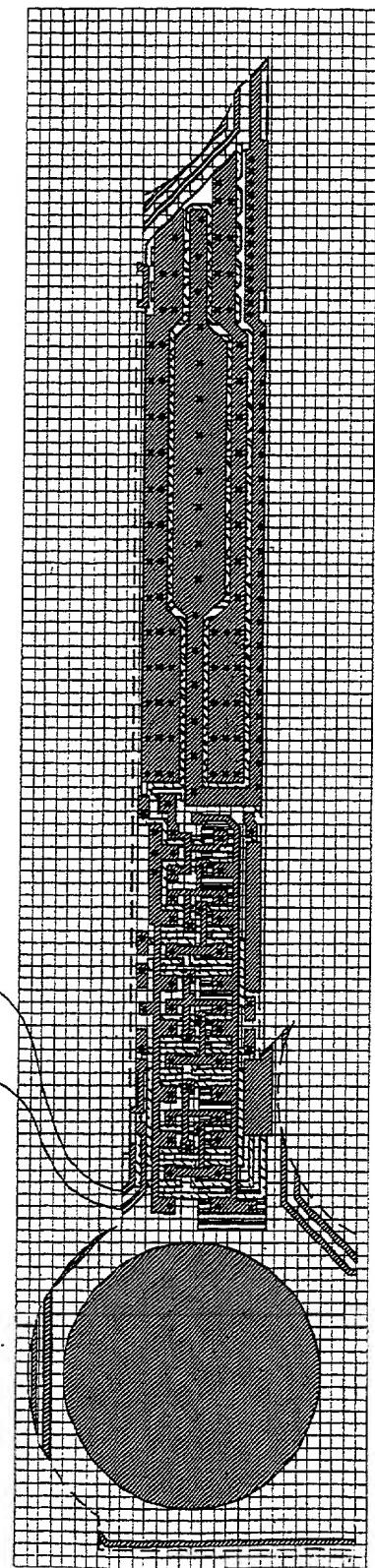


FIG. 80

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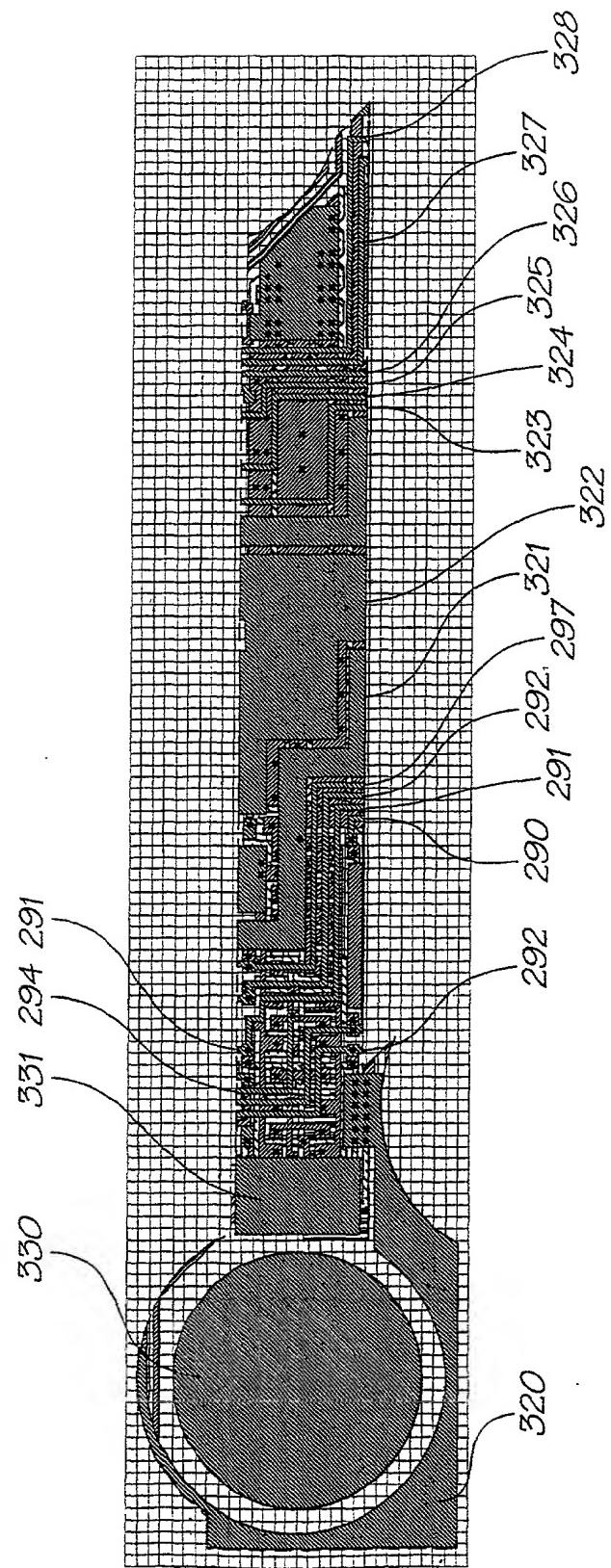


FIG. 81

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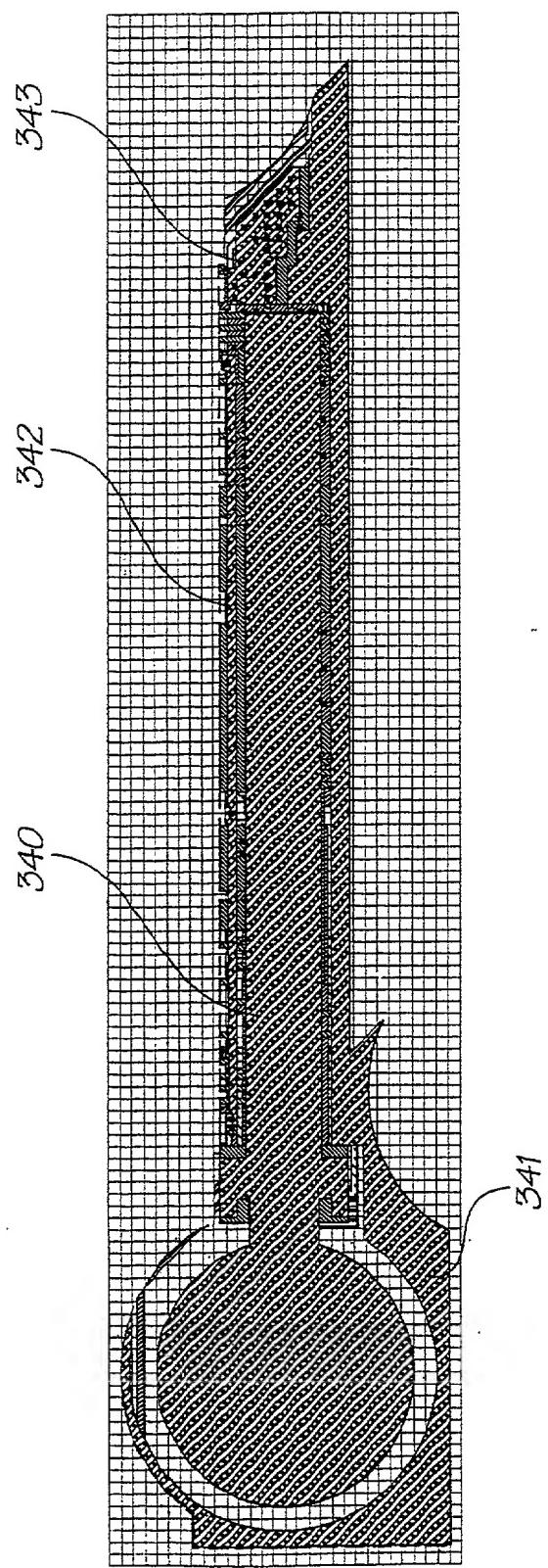


FIG. 82

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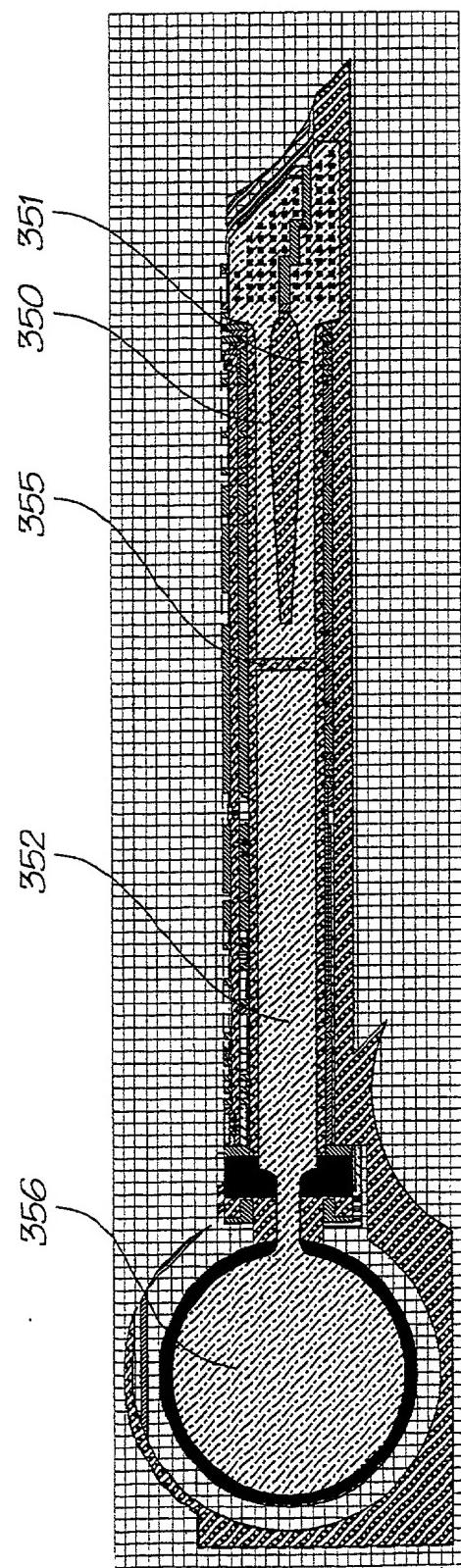


FIG. 83

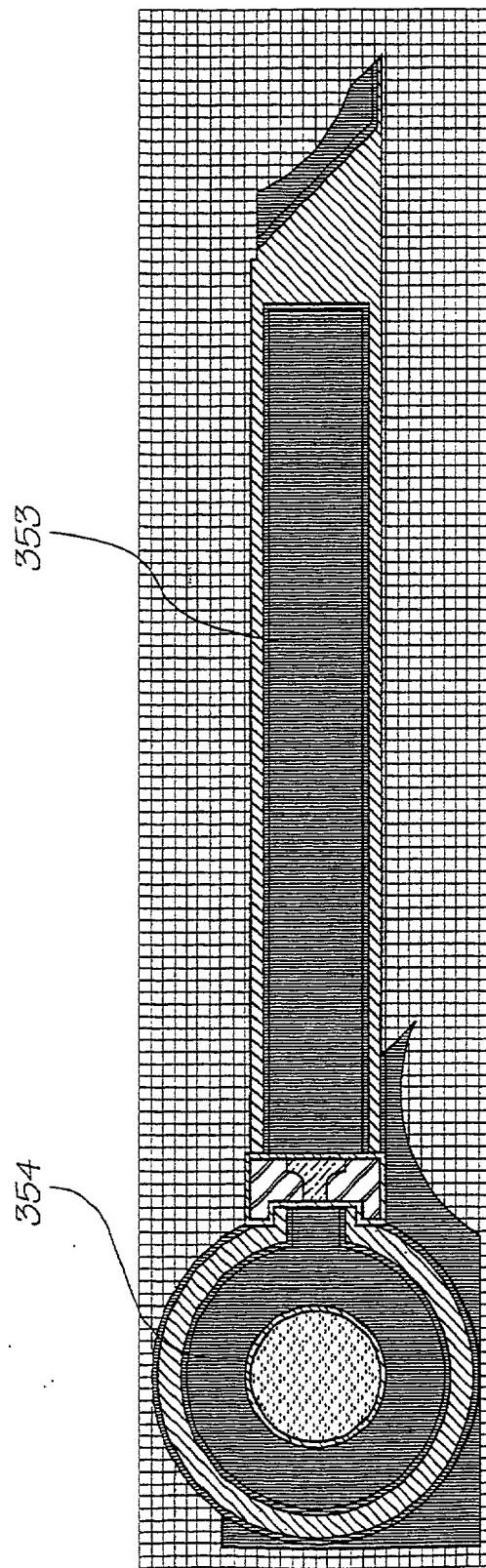


FIG. 84

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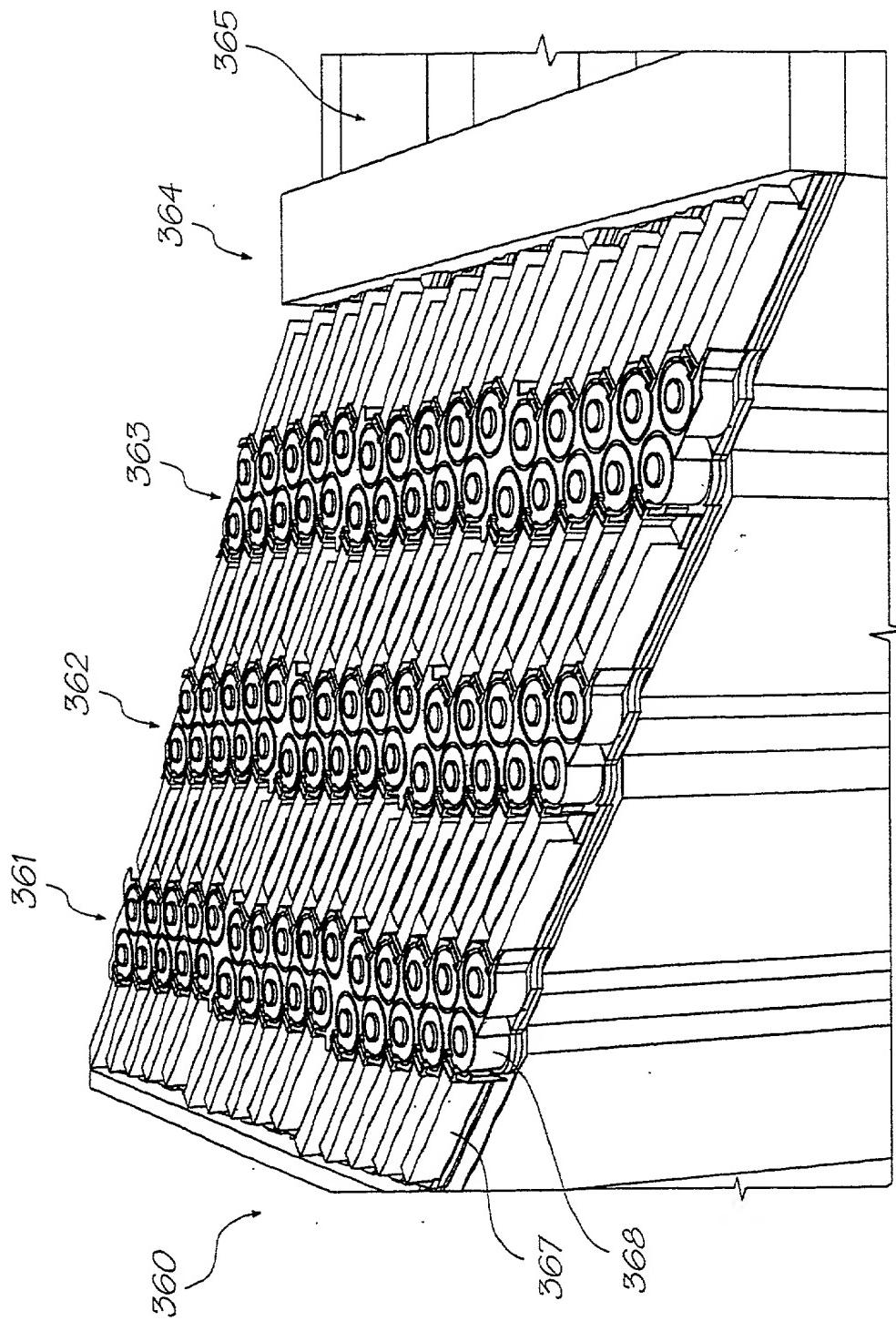


FIG. 85

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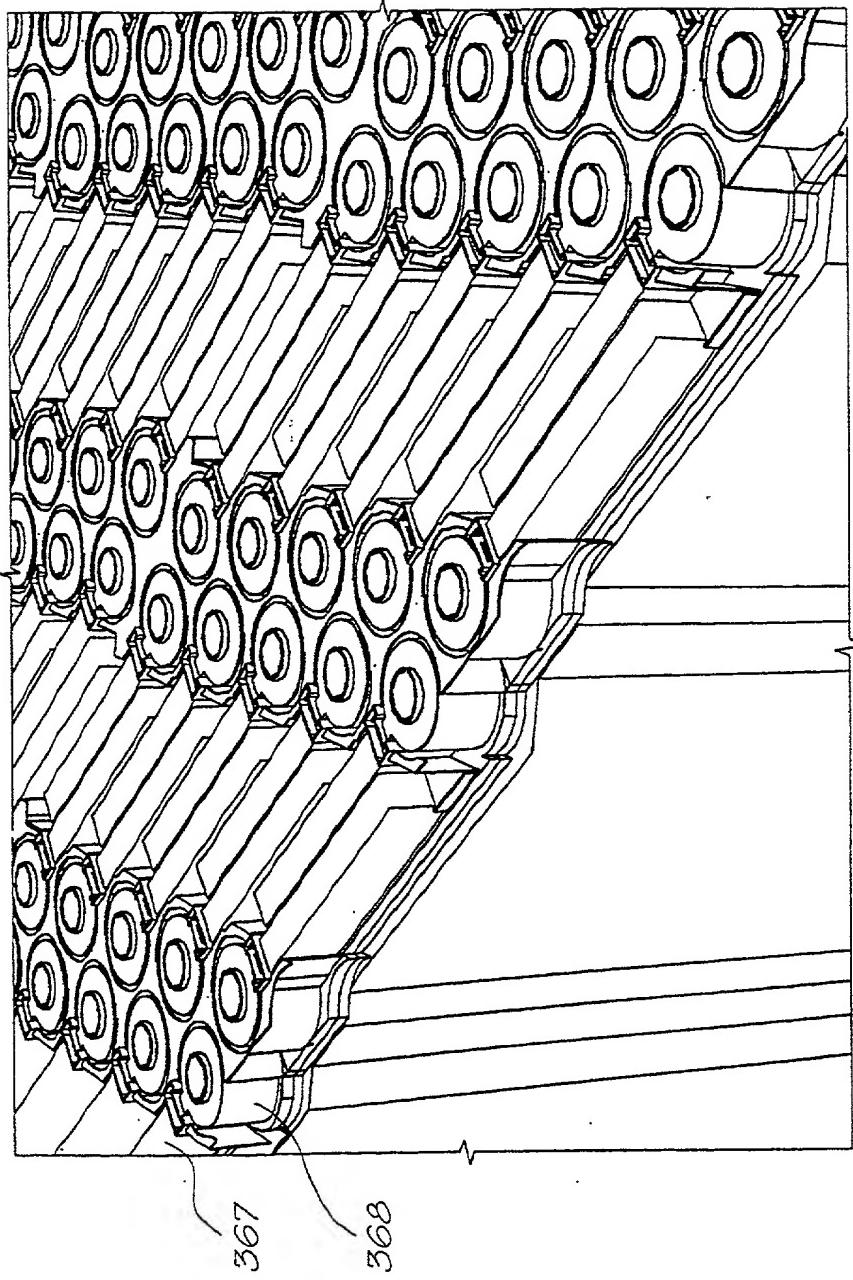


FIG. 86

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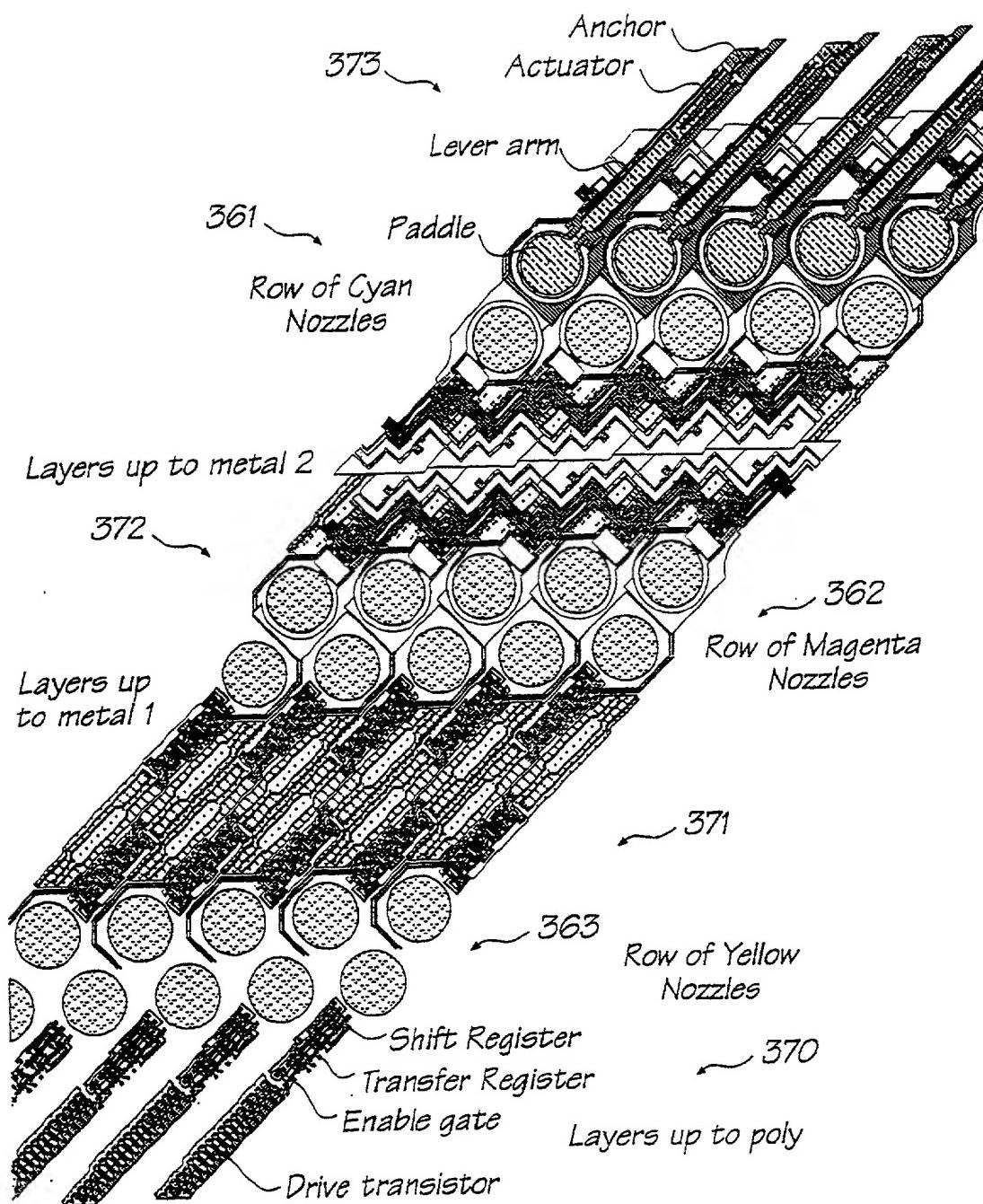


FIG. 87

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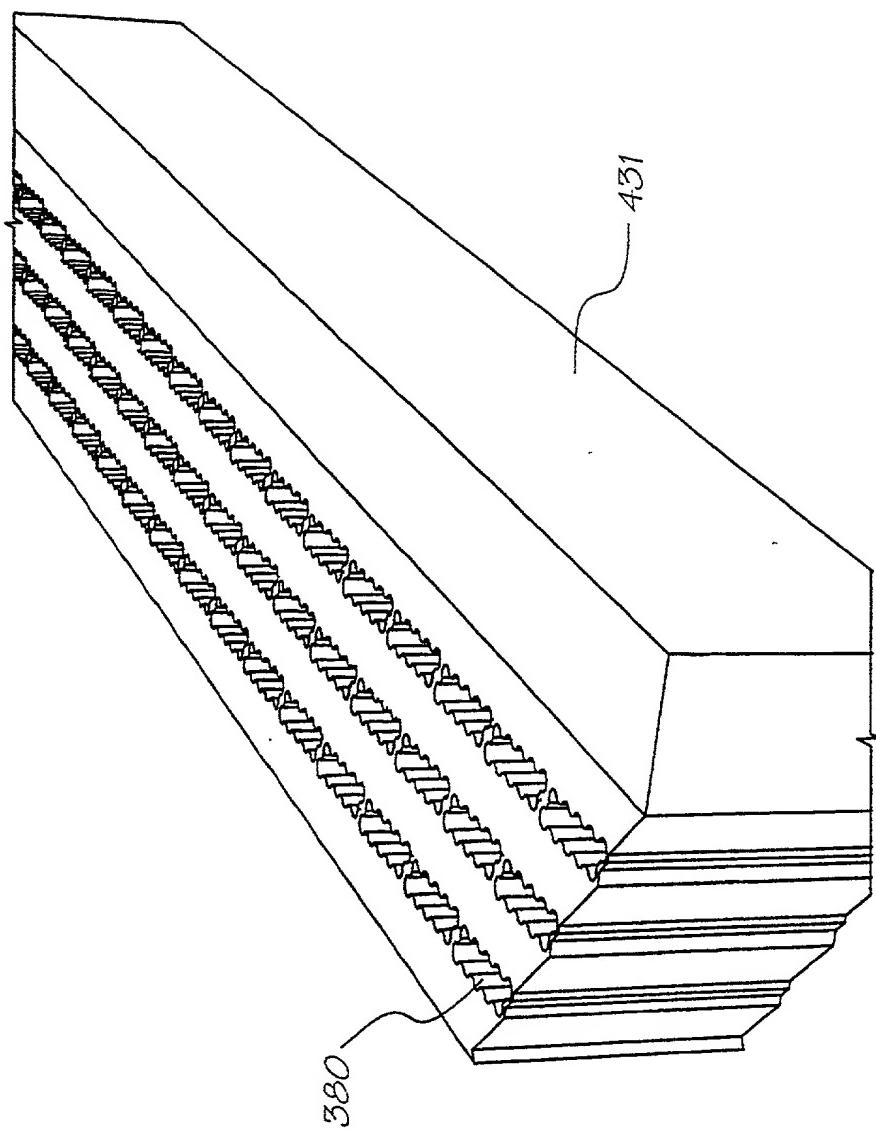


FIG. 88

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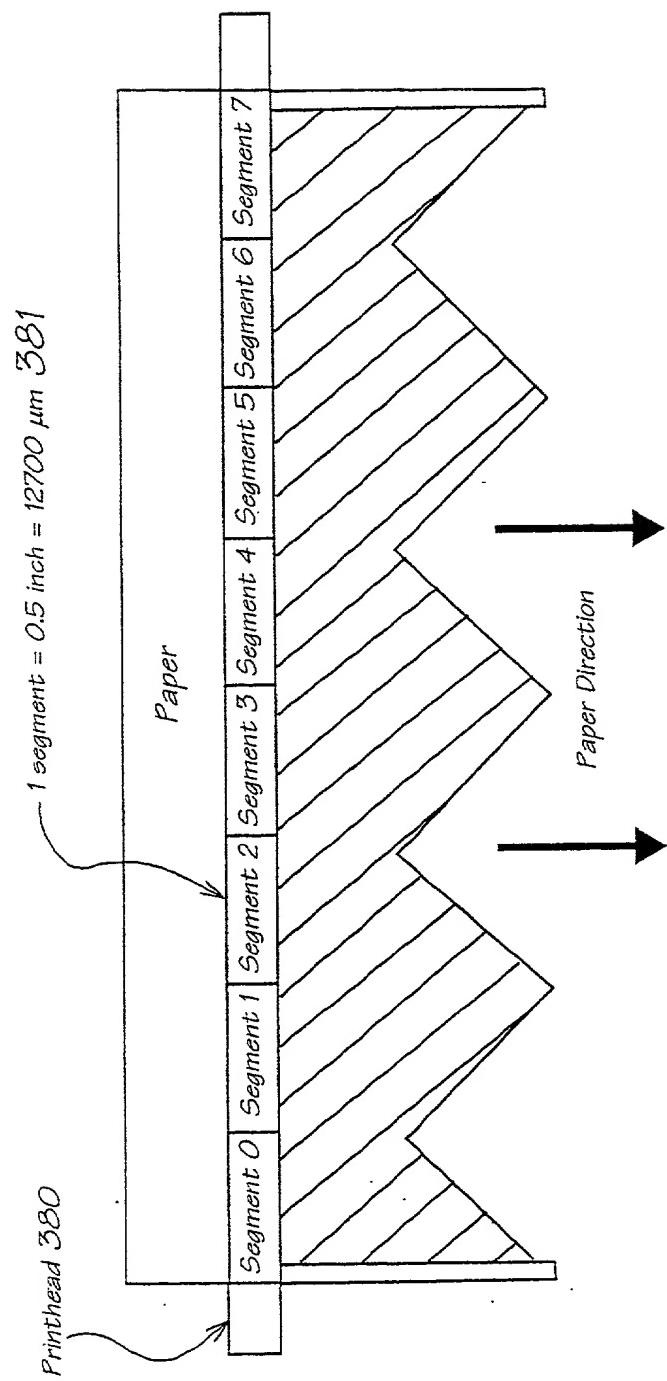
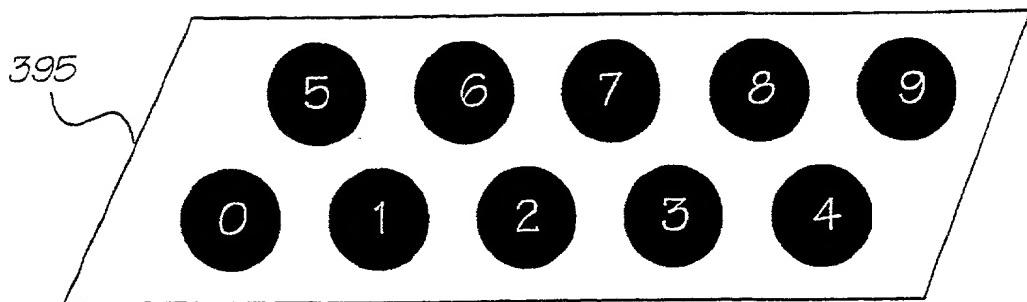


FIG. 89

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A single pod, numbered by firing order

Fig. 90

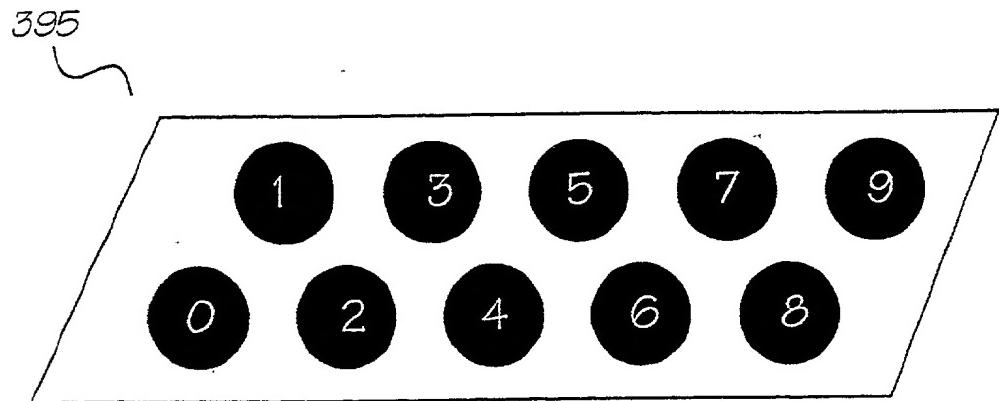


Fig. 91

10 tripods

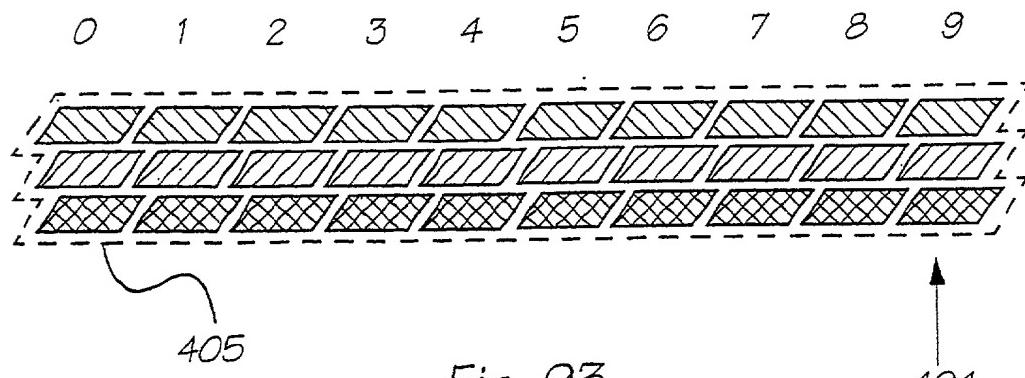


Fig. 93

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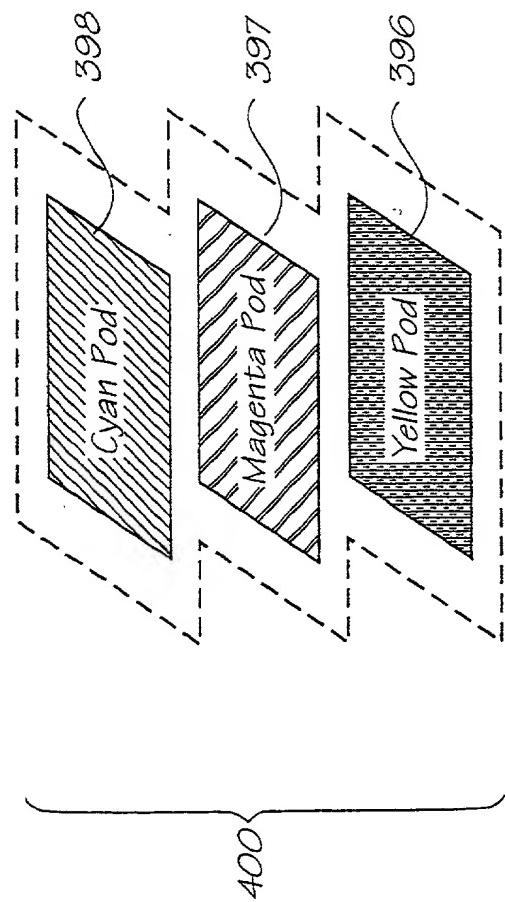


FIG. 92

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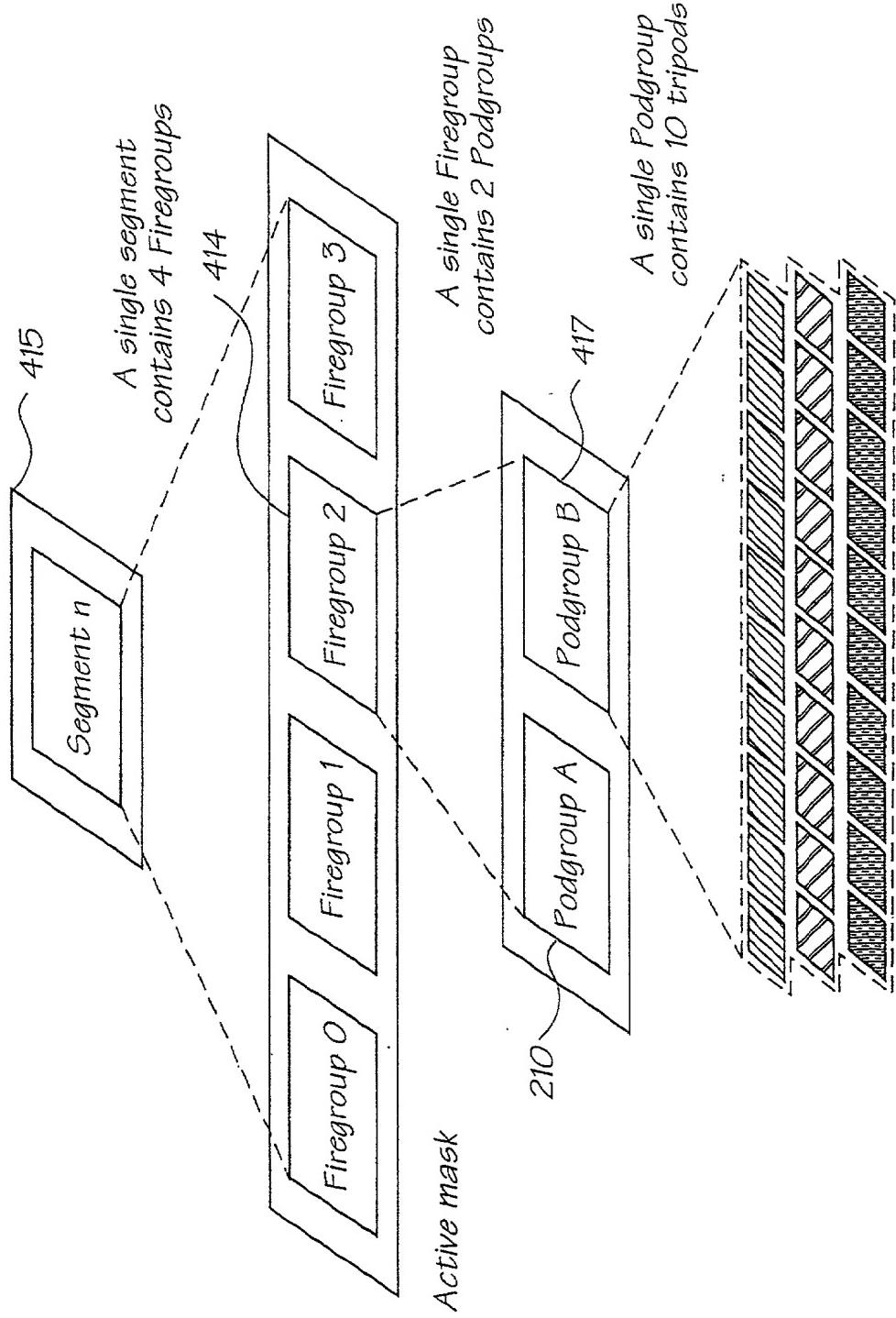


FIG. 94

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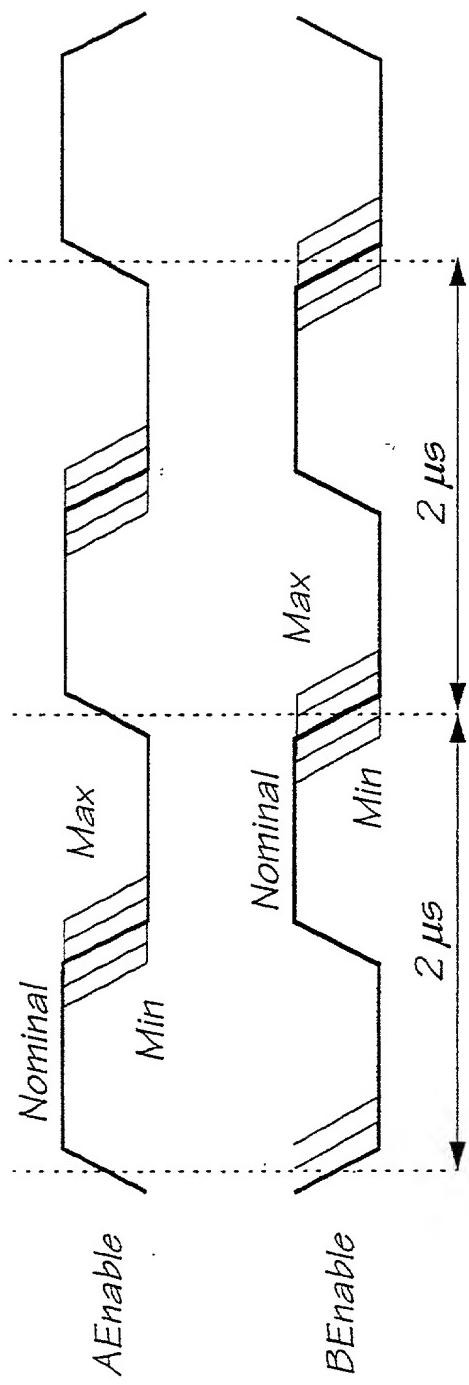


FIG. 95

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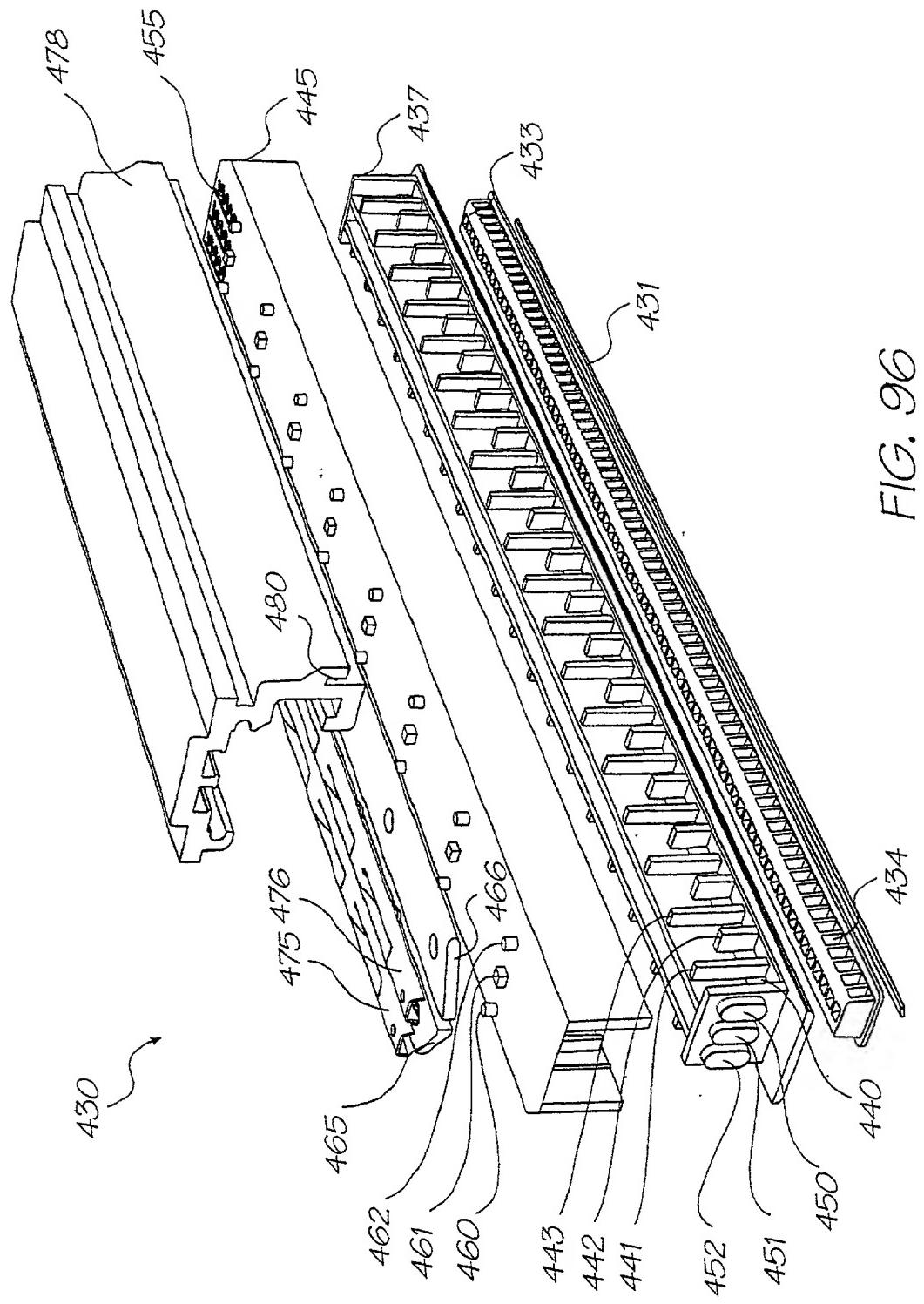


FIG. 96

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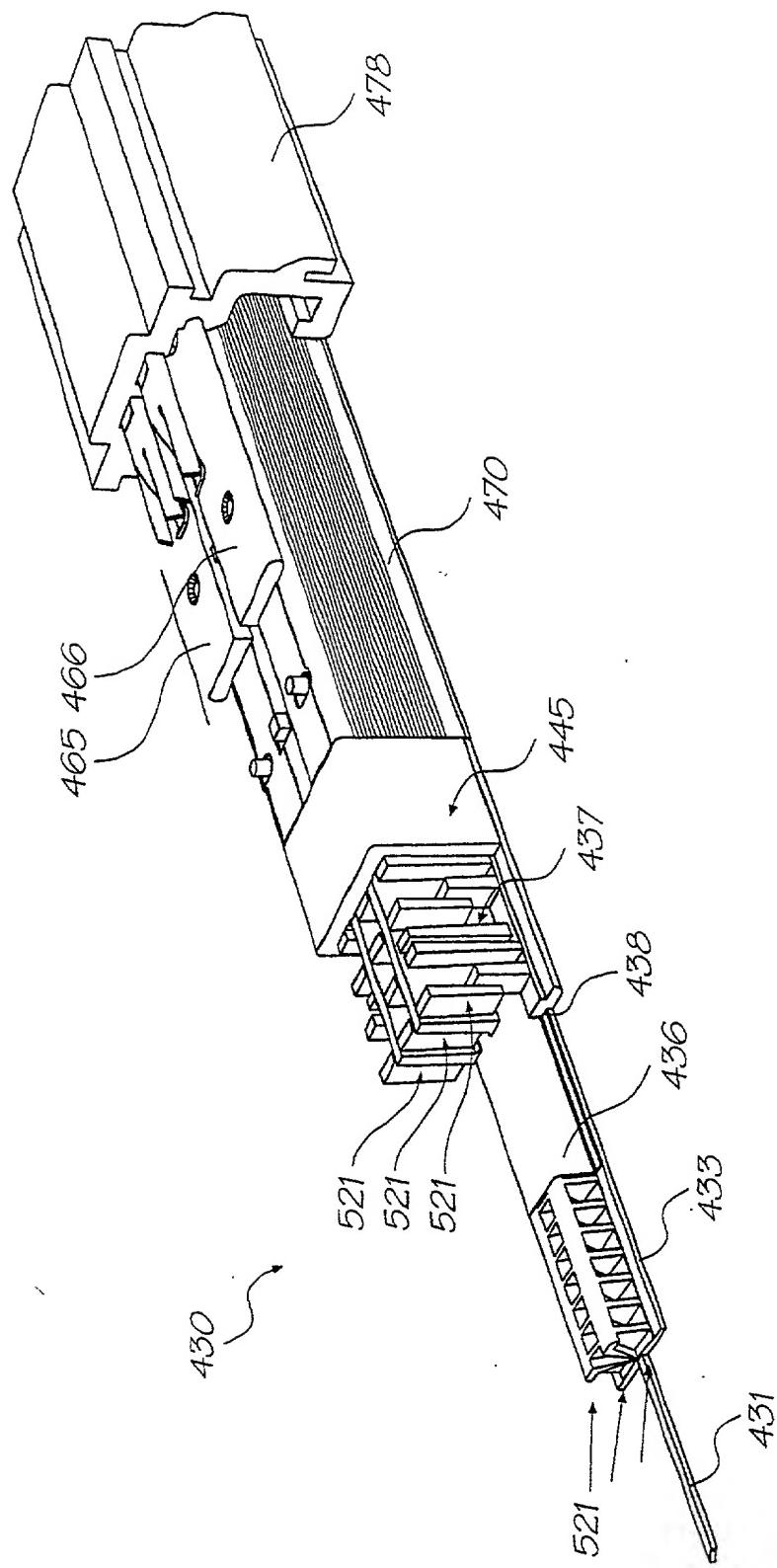


FIG. 97

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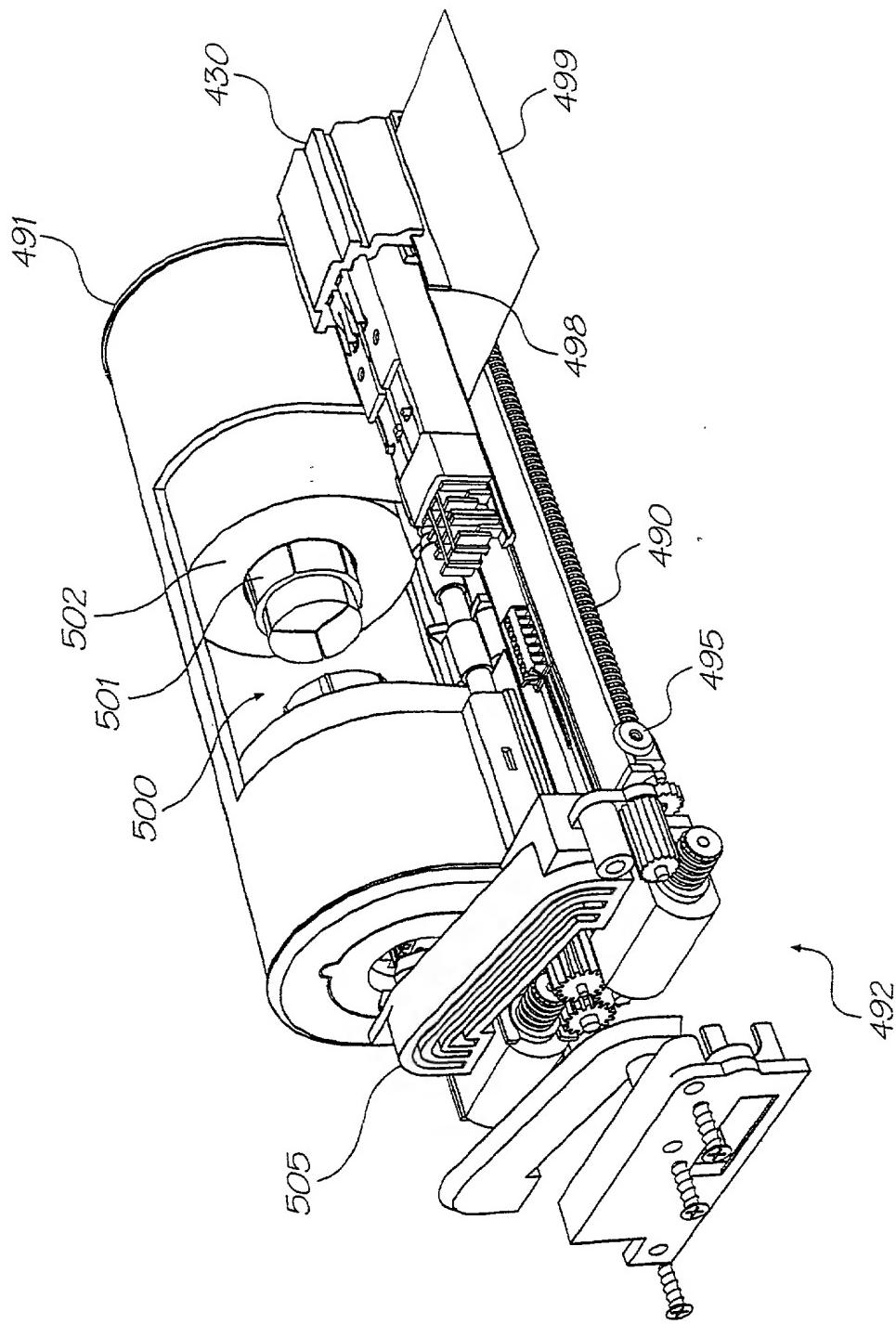


FIG. 98

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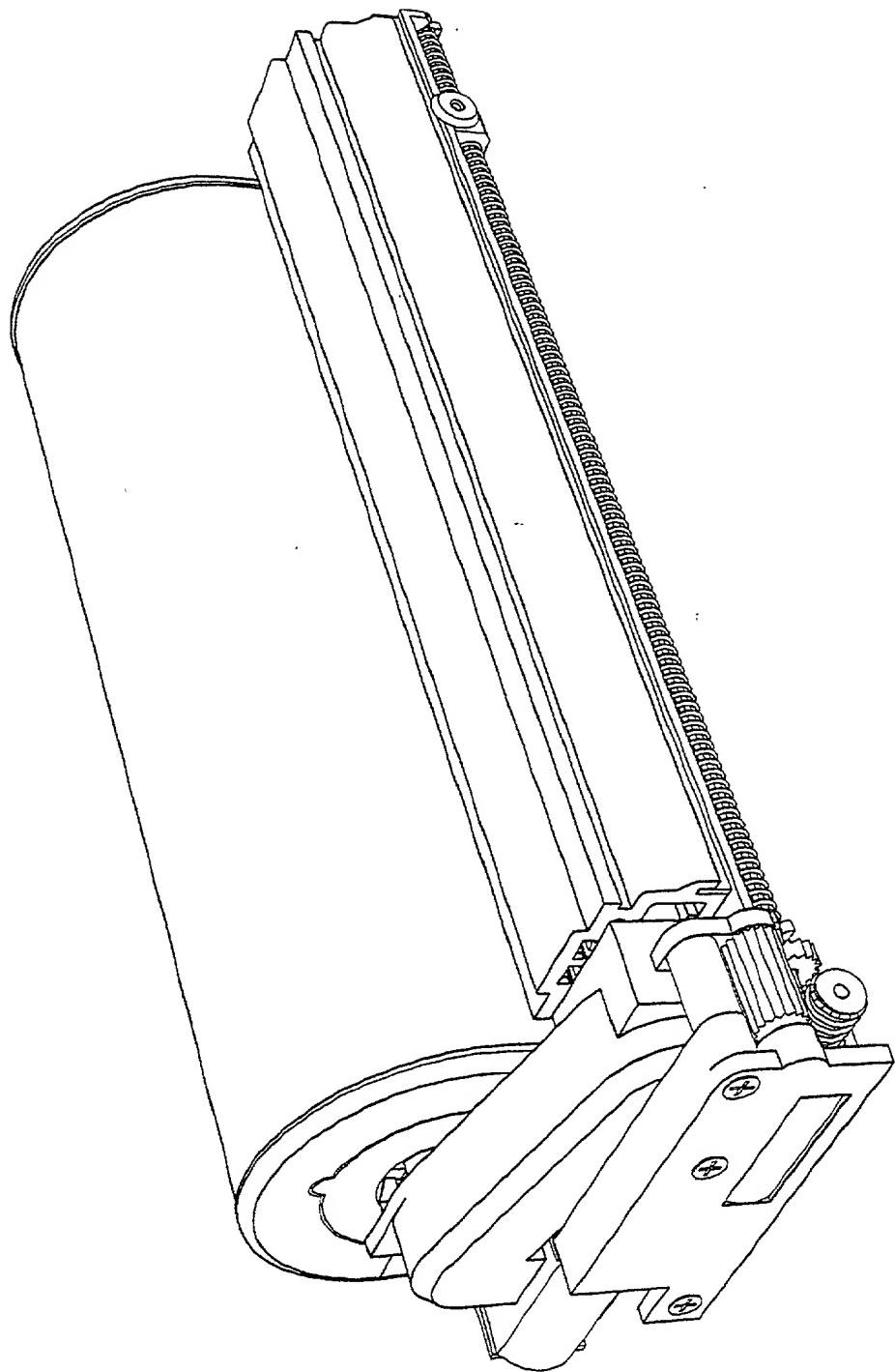


FIG. 99

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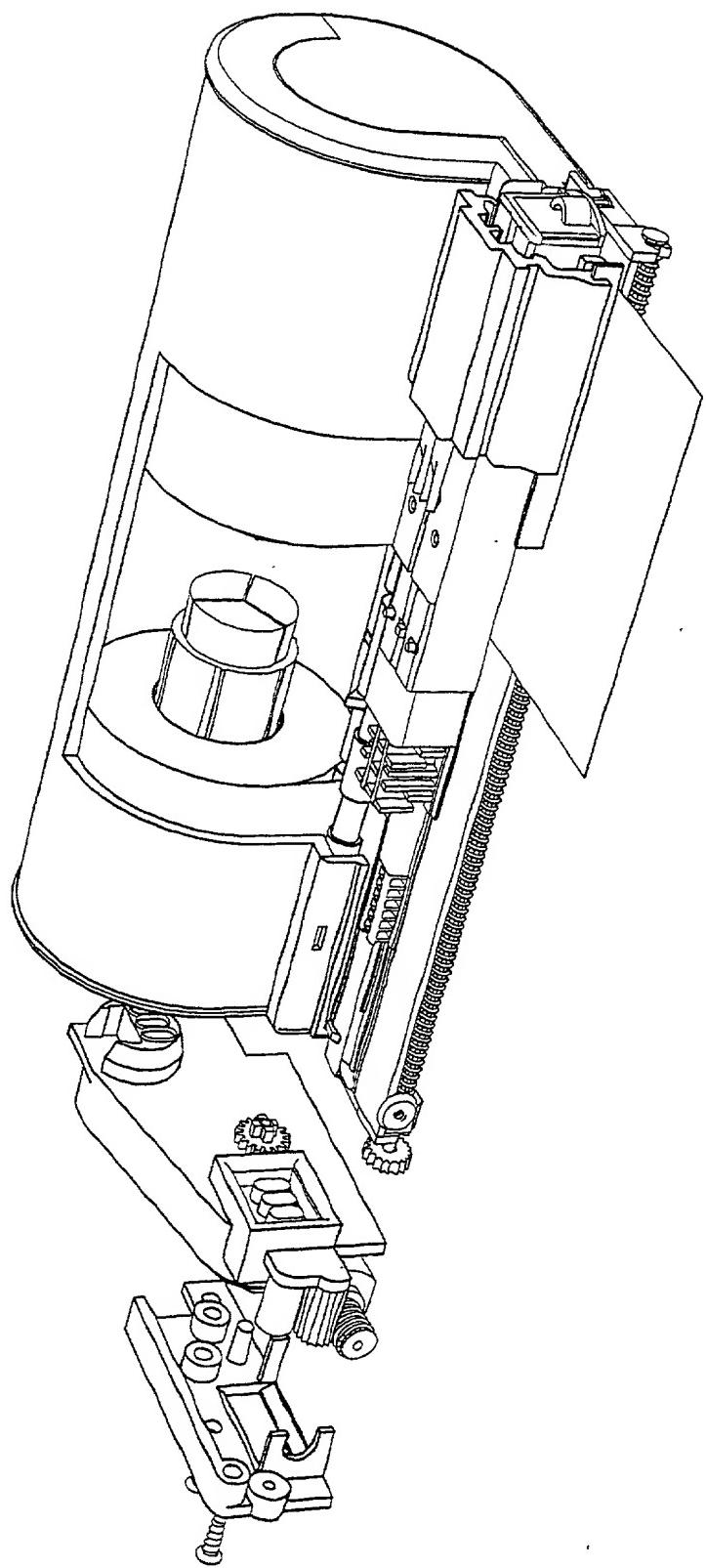


FIG. 100

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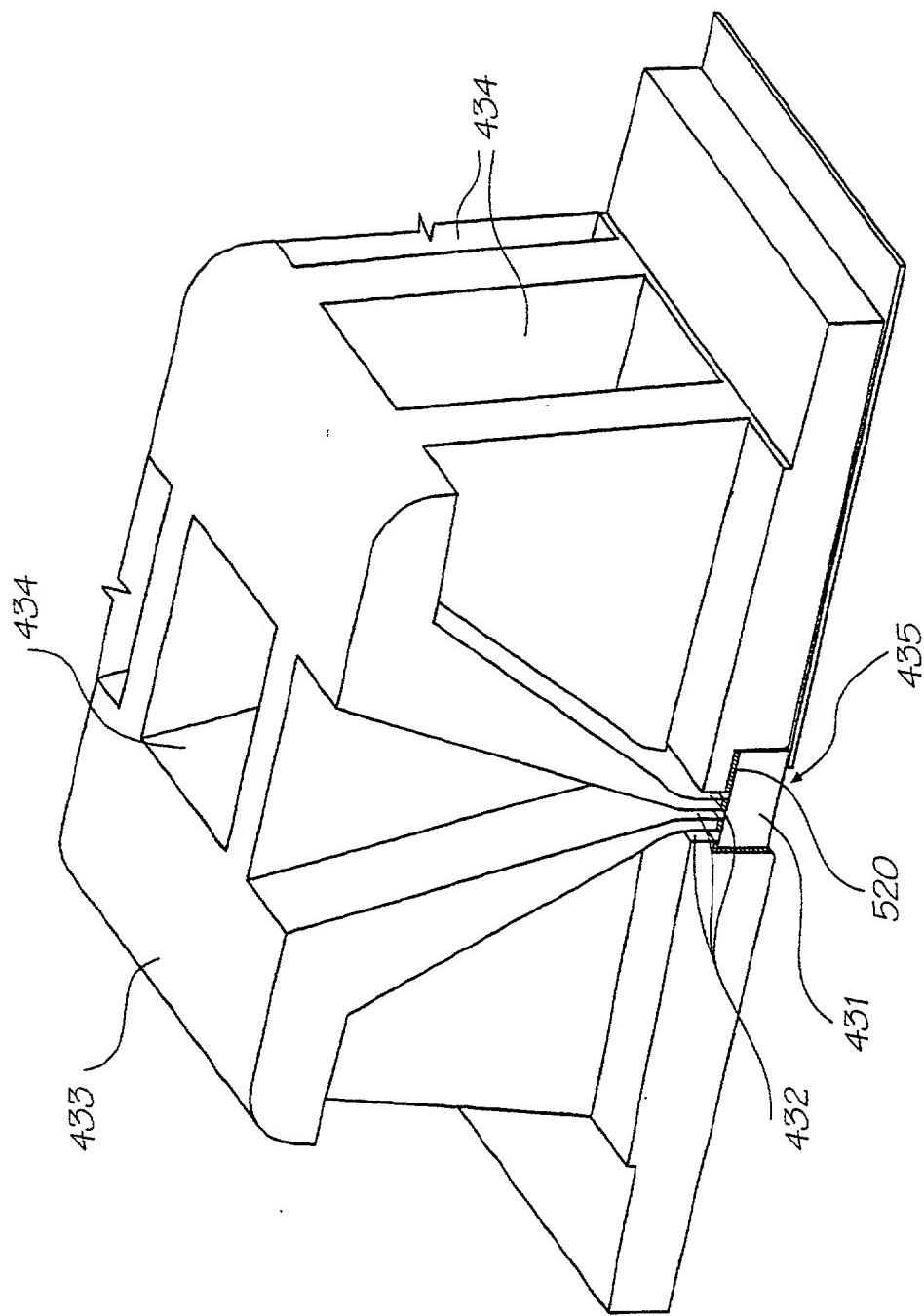


FIG. 101

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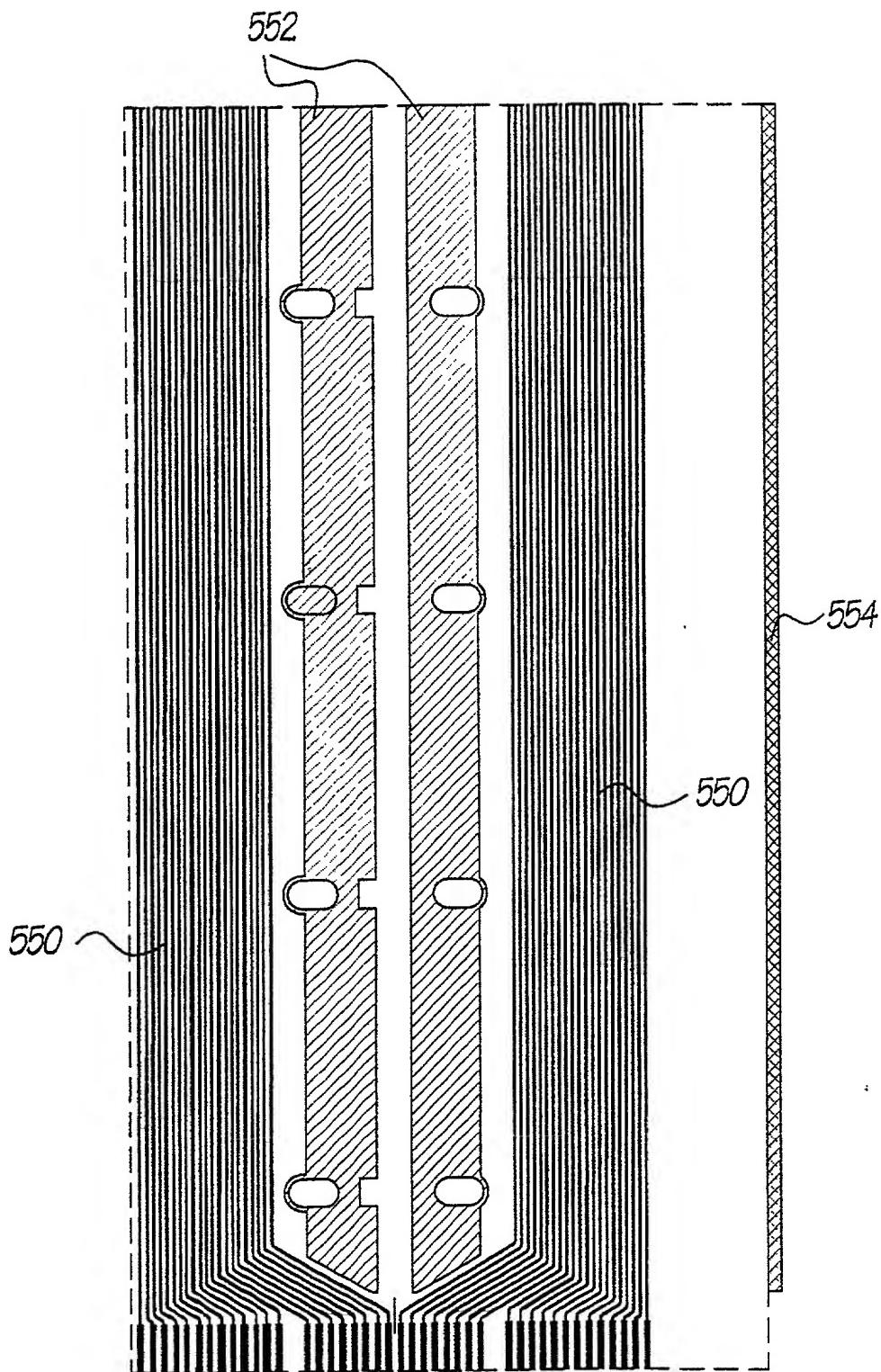


FIG. 102

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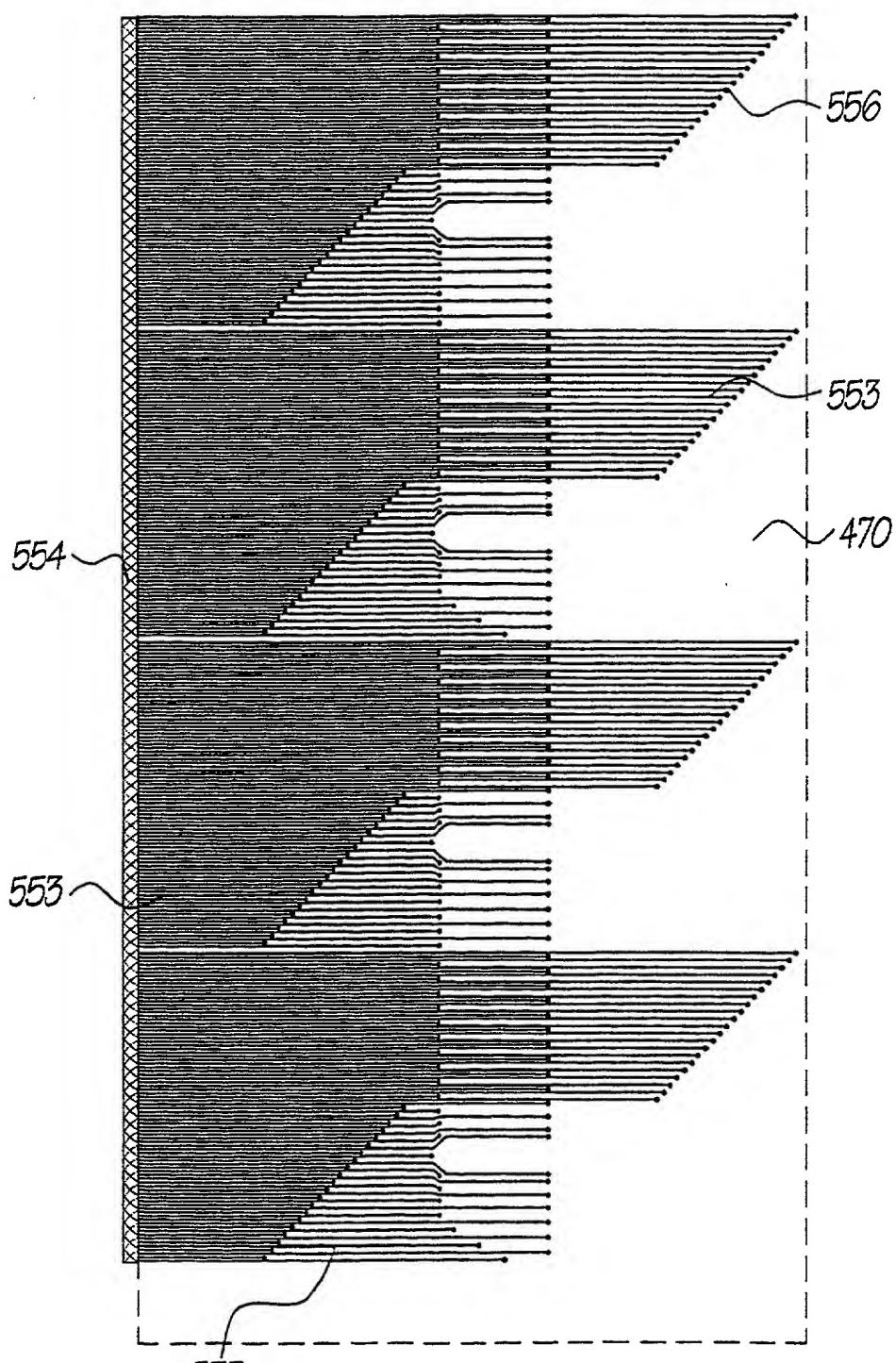


FIG. 103

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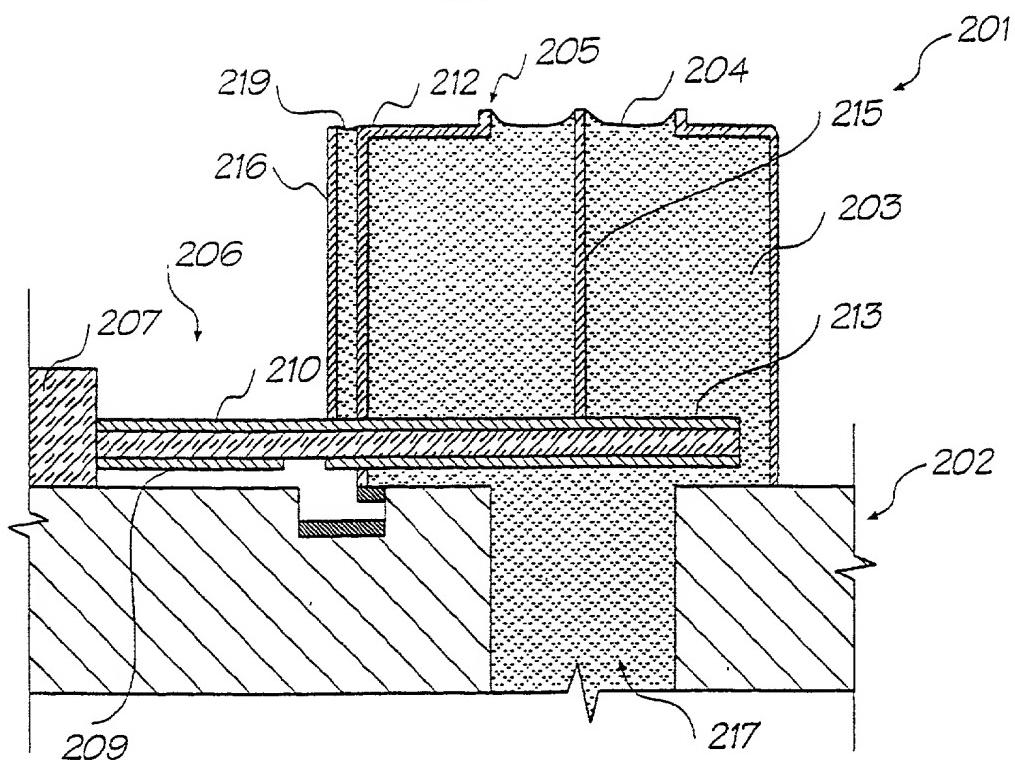


FIG. 104

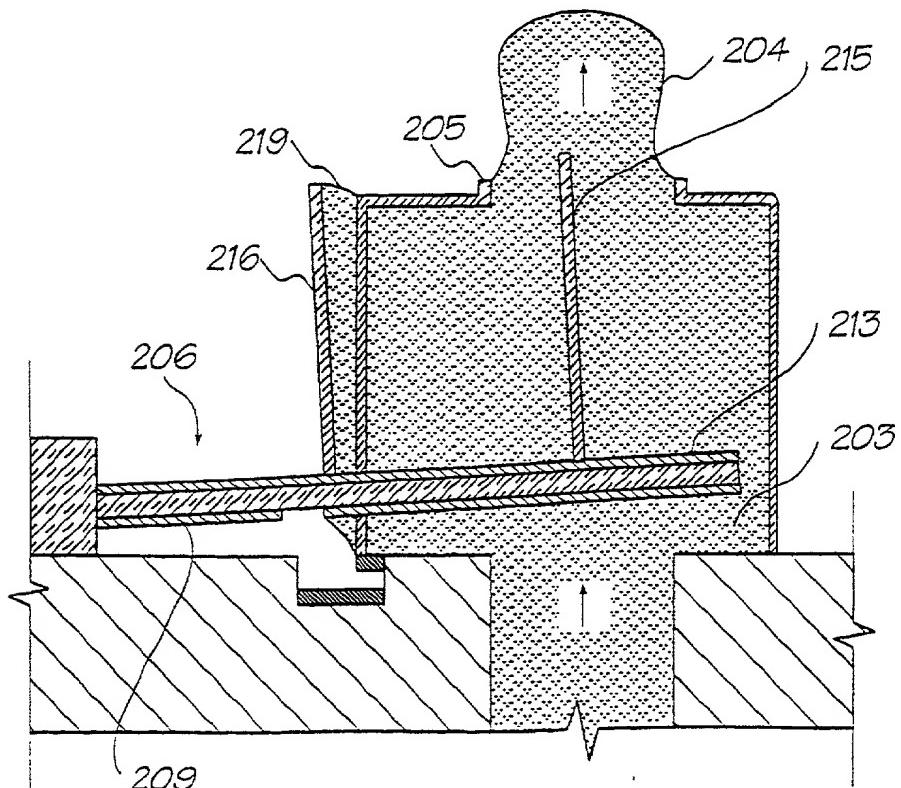


FIG. 105

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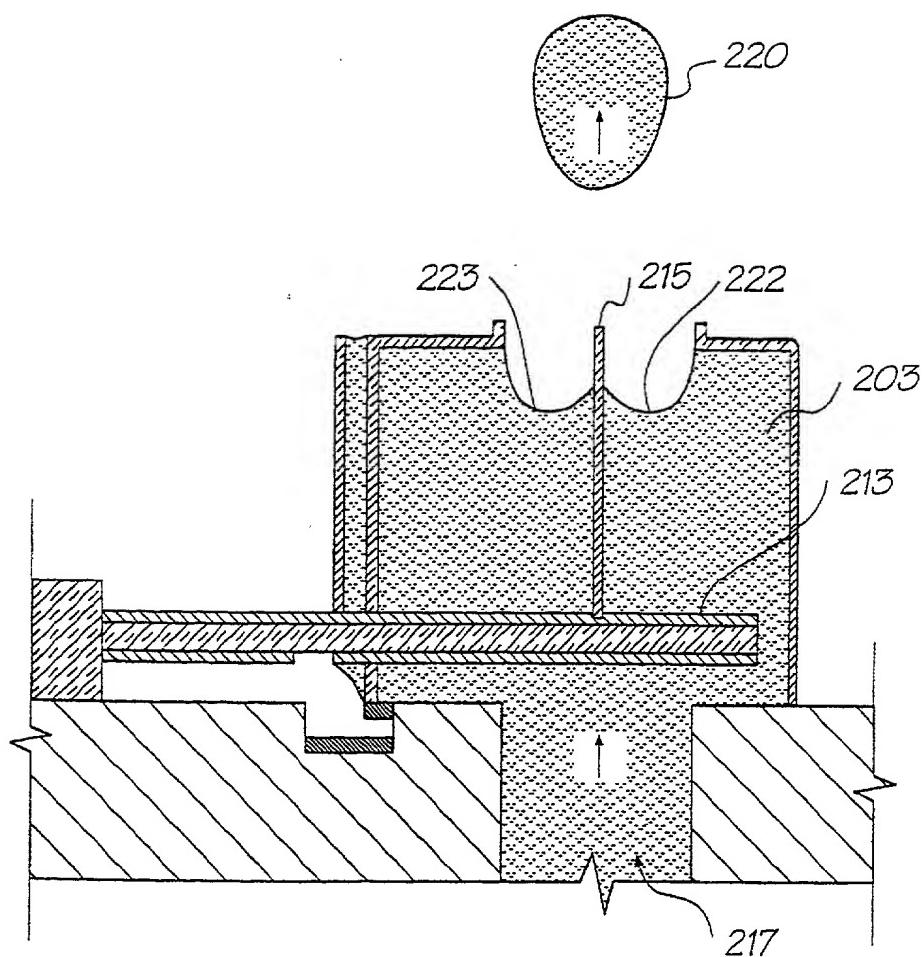


FIG. 106

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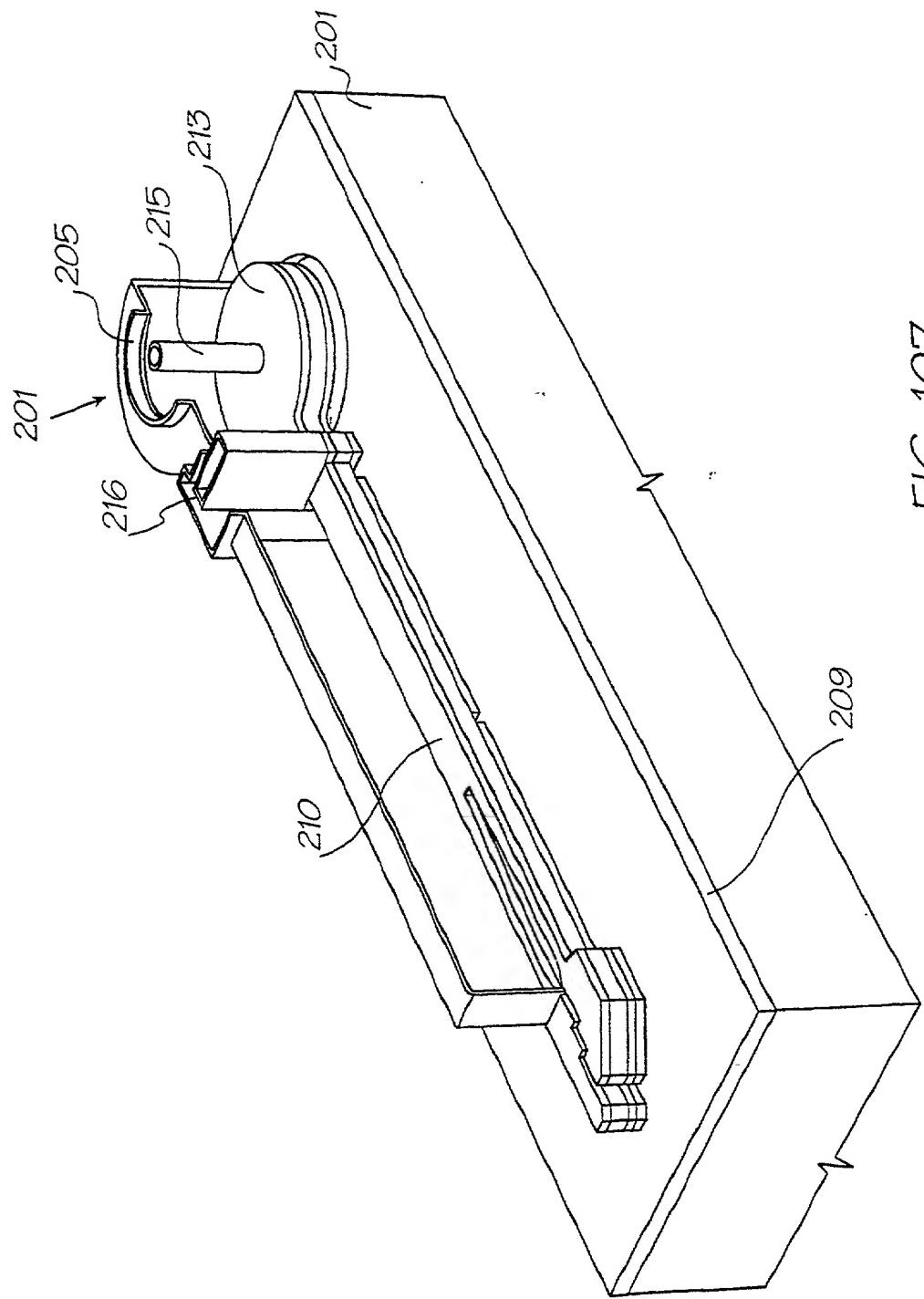
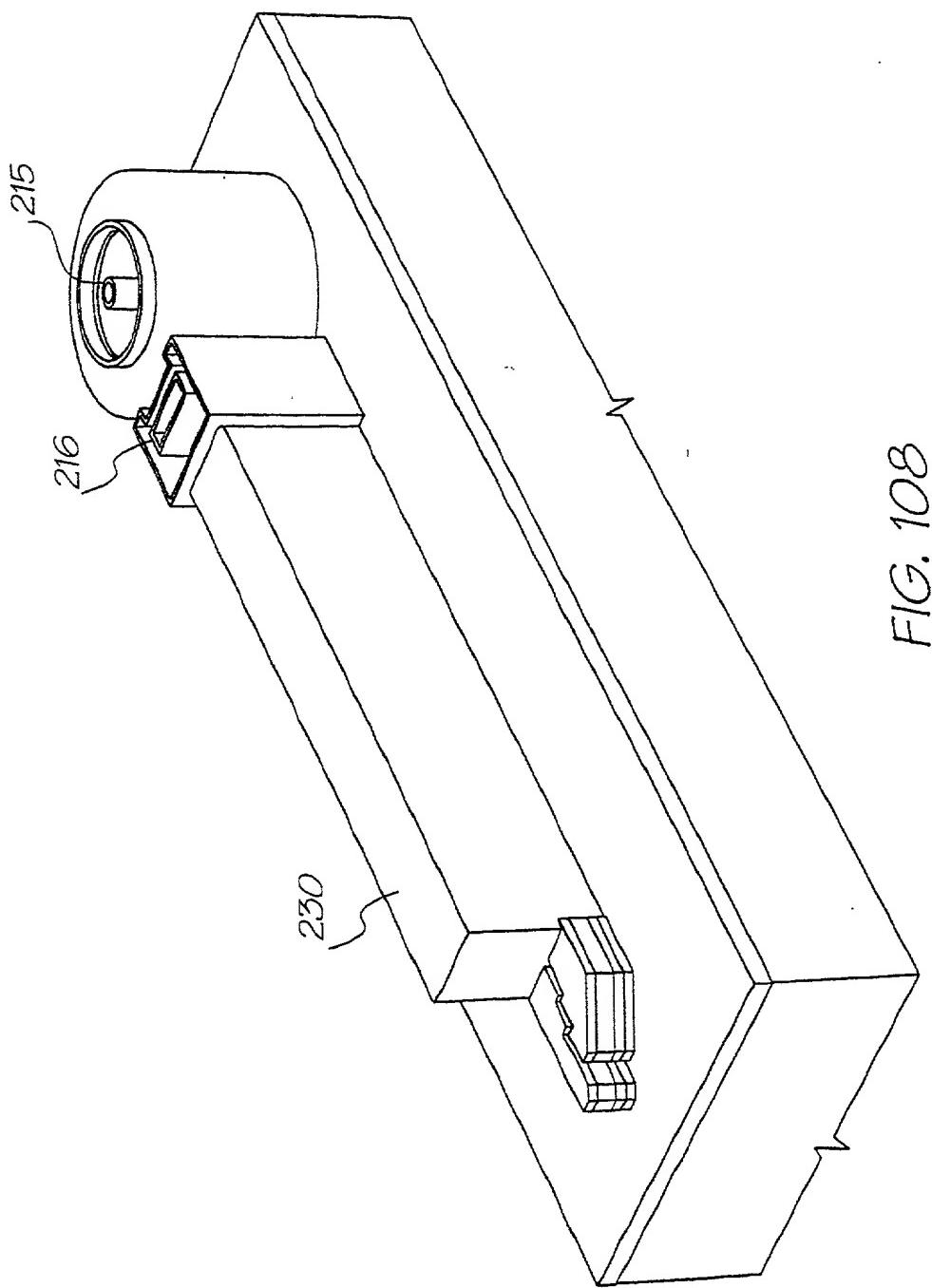


FIG. 107

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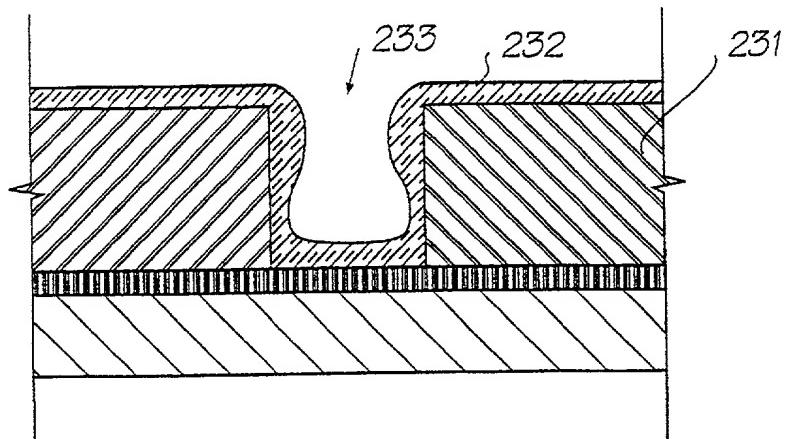


FIG. 109

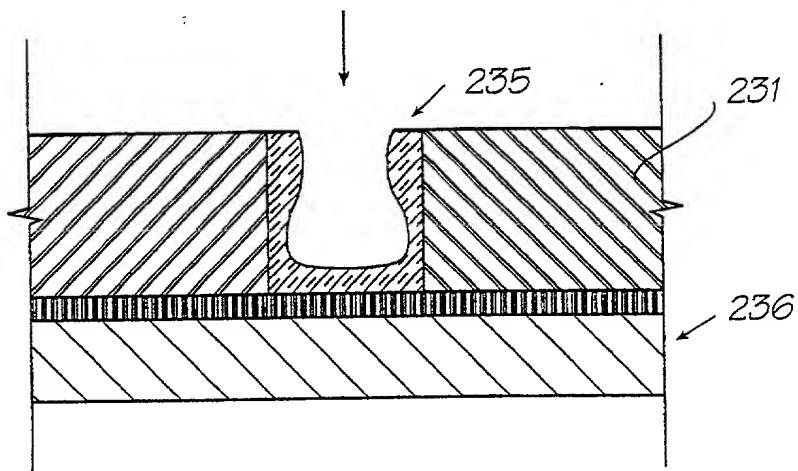


FIG. 110

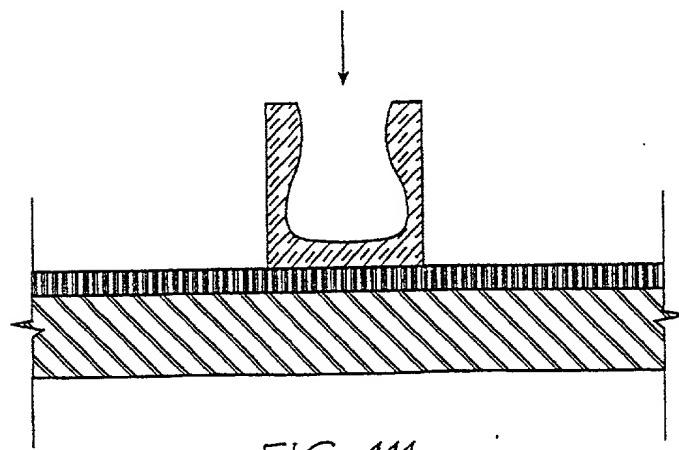


FIG. 111